

Break

Wages of fear

Insurance brokers who specialise in schemes to cover school fees are getting a growing number of inquiries. As fees have risen and relatively cheap options like direct grant schools are disappearing along with that other "acceptable" alternative, the selective grammar school, more parents are finding that they cannot afford fees without spreading the burden.

And more are also deciding that they must somehow afford it since they are not satisfied with standards in comprehensive schools.

"It's just fear," said one broker. "They are afraid above all of the size but they also dislike their children being put in with all abilities, now that streaming is going out, and they are worried about the lack of discipline."

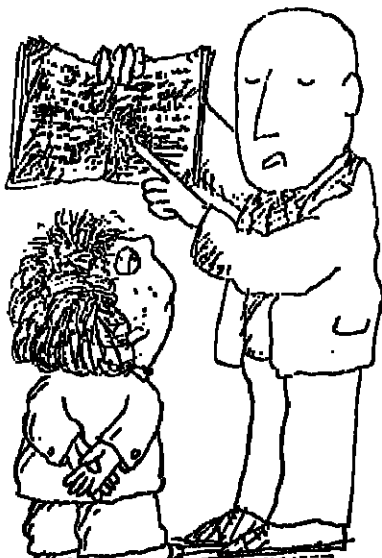
Michael Cornwall, of Holmwoods and Back and Manson, who specialise in school insurance, reckons that a family with two small children will need £8,000 income a year after tax to educate them privately from 13 to 16, or £50,000 in capital, assuming a 10 per cent a year rise in fees. "There are very few people with incomes like that, not enough to keep the private school system going."

There are evidently people with capital. More of their clients are taking out capital schemes, either annuities through insurance companies or schemes run directly by some major public schools.

In order to meet payments, the brokers find many families are giving up holidays abroad and wives are going out to work as soon as the children start school. People are also selling their houses and raising a larger mortgage.

Mr. Douthett, who works for one of the biggest brokers, C. Howard and Partners, has the impression that a large and growing number of the people coming to them for insurance schemes cannot really afford to educate their children privately but they are determined to try, planning rather to give up the colour television, holidays, gin, anything. Many have left it too late for the schemes which bring real financial advantages, having children who are already nine or 10.

Michael Cornwall estimates that 50 per cent of the people coming to them would rather not pay if they had sufficient confidence in state schools. And all the brokers I talked to find that some families are thinking of state primary school and even of two years in a comprehensive, followed by public school from 13 to 16 and then



"So because your father voted Liberal, you're a target for South African agents."

sixth form or further education college for A levels.

This trend was confirmed by Simon Lambart, the IIMI with responsibility for secondary education, in a speech he made to the Association of Assistant Masters last Friday on 16 to 19-year-olds. All of them have noticed a marked shift to day schools even though the differential in fees has shrunk.

Against this background of growing demand and increasing strain, there are signs of a scheme developing which in Michael Cornwall's view, "could, subject to government intervention, save the private school sector."

This is a scheme whereby employers make loans to their employees which are used to buy annuities to fund school fees. The employee then takes out an endowment policy which when it matures repays the loan. Mr. Cornwall's company, Holmwoods, have had various inquiries from employers about such schemes recently. "One of them hit the nail squarely on the head. What they are trying to produce is a benefit which will be transferred into employee's after tax income."

Employees who are affected by the £8,500 ceiling on £6 wage increases are not prevented from receiving such loans, nor are they taxable as a benefit-in-kind. They cannot, however, be asked to borrow money from the company directors, unless the company is itself in the business of lending money. (The Bank of England came in for some embarrassing publicity over just such a scheme recently.)

School Fees Insurance Agency Ltd, who are taking £1m a month in payments on annuities for school fees, have run such schemes for over 10 years. But only in the last year has there been substantial interest in it.

John Hastings, the managing director, set out the financial advantages: a man, aged 34, with a child of three who wants £1,000 a year fees for five years starting

when the child is 13 gets a loan from his employer of £2,012. This buys a five-year annuity for £1,000 a year, starting in 10 years' time. Meanwhile he repays the loan with an endowment policy which over 10 years costs him £1,105, after the relevant tax allowances. To double the fees, simply double all the figures. A remarkable bargain.

An employee of 38 with a child though less profitably. The loan for the same return would be £4,370. The endowment policy would cost £2,362 net and would mature when the child was 23.

School Fees Insurance have recently negotiated such a scheme with a large company which will bring them £150,000 in loans this year and a similar amount in the next year or 18 months. Another similar size scheme is in the pipeline and the number of smaller ones for firms who want to benefit, say, a dozen selected employees.

All of which should be food for thought for a Labour Chancellor with a budget to prepare and a sharp eye for taxing benefits in kind—i.e. that is, Mr. Hesley has not got other things on his mind.

Dirty tricks

What with the Prime Minister's resignation, the members of the House of Commons committee on the Education Bill did not have their minds wholly on the job on Tuesday. There was much scuttling in and out and whispering and a feeling on the government side that it would be nice to get away in good time for the meeting of the Parliamentary Labour Party and that statements on banding, the subject on the agenda for the afternoon, would really not get the publicity they deserved.

They were, therefore, content to build the Opposition on the group of amendments which covered exemptions in addition to music and dancing and those which modified the phrase about selection according to ability or aptitude. This was done at two minutes to one by moving the closure of the debate without notice on the whole group of amendments. "A very dirty trick," according to Clement Freud, who, as a result, had not been there to vote.

However, the chairman relented in the afternoon and allowed discussion to continue—could that have had anything to do with the Government's intention to bring the bill forward by the end of the day? The Conservatives' ruffled feelings at the suddenness with which discussion of the topic was ended seemed to have subsided. Mr. Norman St. John-Stevens had been given time to speak again about their school. Mr. Keith Hampson had made his statement about the need to develop specialist departments within schools in certain areas to which selection should be allowed.

Before the orderly business of the committee was disrupted by more dramatic events, Dr. Rhodes Boyson had held the floor at some length, arguing for selection for mathematics and science, languages, technical subjects, athletics, and the exceptionally gifted. In particular, he raised the question of Welbeck College, a college maintained by the army which selects at 15-plus for mathematics and science courses. Would it be allowed to continue? Yes, Mr. Barry Jones, Under Secretary at the Welsh Office, assured the committee. It would, it is technically an independent specialist institution for further education and does not come within the scope of the Bill.

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Aristides



BUCKLEY

I was caught the other day in the crossfire of a row on a London bus.

Anybody who has had this experience will know what it entails. Your ears are back and you keep your head down lest the slightest movement on your part should make you, too, an object of attack. You pretend that you are reading the newspaper you wish you had but have not got. And of course though eavesdropping is hateful you cannot but overhear.

The details escaped me in this case, but I could not miss the drift. A teenager had been assigned to a new school, and a famous comprehensive was mentioned—but the transfer was in dispute. Travel to the new school was awkward. So the family—mother, father and the boy himself—were on their way to the "office" to sort things out.

There were evidently complications. There was talk of earlier transfers. I suspect that the welfare services were also involved, for a social worker, apparently, was mentioned. This could indeed well have been a problem family. There was certainly a problem child.

The row arose between the father and the mother. He, it seemed, was an unwilling party to the sending. He could not bear to hear her there. And the more his wife, the dominant partner, upbraided him for dragging his feet the more he mumbled at her to be quiet. But her quarrel was not really with him. He was just the sounding board for her resentment against officialdom. It was a bitter, deep-seated resentment and as the bus travelled on her scathing tones told it for all to hear.

This was a woman who had a lifetime of being bossed. Her very existence was based on decisions about it put off—by other people who were off to know best. From the family boardroom the bus that even her living space, she liked it or not, she had those high-rise flats.

She had had years and years waiting in offices and at her lunching for officials to please. "No, I'm afraid it's out," she mimicked. "Wait, I will see if Miss Brown has a name on a list."

In her experience officials were not human beings. She had a name on a list. You might have taken her tirades lightly. You might have been amused. There is a kind of Londoner when a dander is up. "And what dead," she concluded, "is her way through a lot of other people's decisions. You that oh, no you can't there in the cemetery want to be. The ground is that side. You must get chimney and be cremated."

It was, you see, a lively thing. It is left me deeply. The newspapers were just then how some people their personal liberty were fringed if the Government then wear seat belts to had been listening to whose soul had been torn on me than did Lord or Alexander Solzhenitsyn right, I asked myself in my own comfortable way one to order another's life from individuals' decisions would want for themselves.

I was sickened that a national system had failed to equip this intelligent, loust in part, to be more fate. But I was sad, too, feelings about her and the moment she spoke of had one had of a grief for him. But that had a board.

Twenty-five years ago of this journal was the there was one child and a cor who sat at his desk times with an open door, member of the public, him and not to one of. He saw his job in the time.

I doubt if there are any sort about today, people and more reduced to the Socialists stifle individual in the name of society. Tories leave people alone because they are busy themselves.

Nor were the present woman on the bus any by the field of education, independent schools. They had been to the freedom of cannot pay their fees. It is their almost absolute take it up, their become the captain of people's fates.

University Grants Committee have this put their toes gingerly into the waters while debate by writing an introduction to an annual report of unusual directness (page 9). Their aim in doing that has been to make evident their concern for the universities, pressed as they are by cash, and for the students working

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don't believe in child-centred education, just education." Bob Doe meets a remarkable head in a parkable East End private school and finds out just why parents are queuing up to get their children

Wanted: answers not scapegoats

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These are matters which should not be allowed to become identified with the stale debate about school organization. That is too easy. However it is fair to ask whether some recent policies and developments are not likely to load the dice unfairly against their serious consideration.

At present while streaming is increasingly out of favour, various forms of banding into examination courses is almost universal at about 14. If the Schools Council 16-plus proposals were to be accepted, this could become rarer and the necessary business of mastering the basic framework of academic subjects, upon which later work will be built, could be delayed from 14 to 16, with all the costly consequences of which the UGC war: and of which the Americans have ample experience.

Again, the present Government's Education Bill now before Parliament, while it does not proscribe the development of specialist courses, if passed, will make it more difficult to introduce economical ways of providing first-rate specialist teaching in sequential and minority subjects for the under 16s—and even perhaps, in areas which have an established 11 to 18 pattern of organization, under 18s. Mr. Mulley's Bill is ostensibly about abolishing the eleven-plus: it is important that its side-effects should also be considered.

No comment
Headteachers at Hovland have banded together to try and boost the local birthrate. The relevant minute in the governors' report says that an association is being formed to deal with the problem of great decline in child population. —from the Sheffield Morning Telegraph.

Penny pinching

A secondary head and school secretary add up the sums they are allowed to spend on books, materials and equipment and find that 1p per pupil per period is just not enough. And yet, they say, it is in this area that I.O.S.s are looking for cuts

page 2

Ten pilot mice

The Government's plans for 10 pilot schemes to help only 300 young people a year make the transition from school to work were criticized at a conference on 16-18s. Philip Venning reports

page 3

For and against

In this week's reactions to the Schools Council 16-plus proposals the cons continue to outweigh the pros. Sue Cameron reports

Jobs threat in Surrey

Ten major unions protest to the Government about "devastating" cuts in Surrey

page 7

by Frances Stadlen

The BFI governors say they are considering showing the film to specialist audiences with a professional interest in the subject.

The Arnold Shop Window, a comprehensive exhibition of Arnold Educational Equipment and Publications, supported by lectures by educationists, will be visiting Manchester to give people in that area an opportunity to examine their:

John Ingram will be representing the Times Educational Supplement during the course of the exhibition and looks forward to meeting as many teachers as possible.

The Exhibition will be held at the Midland Hotel, Manchester, on March 30 and 31 and will be open on both days from 9.30 am to 7.30 pm.

Lectures will be given each day at 5.30 pm as follows:

March 30:
Reading: *An Approach through Children's Imagination*—
Sheila McCullagh.

March 31:
Fun with Instruments and Learning about Music—
Catherine Baxter.

The Arnold Shop Window will also be visiting London, Birmingham, Leicester and the Home Counties during 1976. Dates will be published later.

Arnold give them the tools of learning.

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The past 18 months have certainly seen a rapid acceleration of the end of what, for many years after 1944, was, if not consensus, then at least a surprising degree of implicit neutrality between the parties in educational matters.

The new guidelines will be included in the NUT executive's annual report to the union's conference next month.

Tom Howarth Still untrodde under Foot

Nor was there a student "movement" before the 1960s, much less any form of alliance between university teachers and students concerned to overthrow the existing university structures.

The IEA said earlier that they would not pay less now at the school if it was independent.

Conservatives, who are not
able as many people like to
have no difficulty in seeing
the line of a socialist strategy
of education. For example, you
put direct grant schools into the
independent corral, so that we
are strong enough you can
and slaughter the lot. Racial
and selective structures in
schools must be overcome by the
of mass manipulation and diluted
examination system.

the study of the history of the
 the minimum required of sixth-form
 on to form a workable course
 three year honours course.
 you will hear much along
 about my successor in this
 for Howarth's successor,
 along with Professor Maurice
 will be Dr John Rae, who

Anti: 'More research, please'

The board reaffirms their support for the principle of a common examination system at 16 plus. They also approve the recommendation for common grading.

Dr: 'Common system is feasible'

the associations of college principals, the National Association of Teachers in Further Education have come in support of the Schools Council proposals for a common

The association "accepts the criticism that the current graduation examination system and they offer no criticism of the sub-committee's recommendations on a new administrative structure. It says that such a common system would have to be flexible enough for more mature students who might need different syllabuses from 15-year-olds.

In their comments the MATHEE points out that FE is likely to be

Mr. John Sawyer, a second-year law student at Warwick University, said he had no idea of the value of a student grant when he applied for one. He said he had intended to have read students' accounts of university life rather than official prospectuses which were not very helpful.

● **Reassurance for careers advisers**

Quaker told a local newspaper that she was "in modern languages, and I should be an all-around telephone operator in the foreign exchange office of a bank."

At the bottom of the scale, Manchester, St Helens, Gateshead and Haringey have no parent or teacher governors and managers. Leeds have only one teacher governor in special schools.

Mr Peter Bannon, head of the mathematics department at St Cuthbert's Comprehensive School, South Shields, was acquitted of an assault charge on Monday and magistrates awarded him £100 costs.

Value for money



Books cost a lot more than they did, but they are still amazingly good value for money. All the books used in schools account for less than 1% of total i.e.a. expenditure; yet they play a direct and indispensable part in what teachers and children are trying to achieve. If it's "cost-effectiveness" that matters, then money spent on books is money well spent.



schools need books

Belle Vue MANCHESTER ZOO TIME TALK-INS



by Animal Magic's

Johnny Morris

THURSDAY, 6th MAY, WEDNESDAY, 19th MAY, THURSDAY, 24th JUNE, at 11 a.m.

Admission 50p per pupil. Teachers in charge admitted free. Price includes Lecture/Film or Slide Show, Zoo Park admission and a tour of the Aquarium/Repellum, Tropical River House, Children's Zoo or Sea Lion House. SCHOOL VOUCHERS (available Monday to Friday for parties of 25 or more). Children and adults 50p. Includes admission to Zoo Park, Aquarium/Repellum, Tropical River House, Children's Zoo or Sea Lion House. Tickets must be booked in advance and are not valid on Bank Holidays. Prices include VAT. For further details please contact: Education Officer, Belle Vue Zoo Park, Manchester, or Tel. 061-223 1331.

Learn more about

Britain's Threatened Wetlands

European Wetlands Campaign
The Campaign, promoted by the Council of Europe, draws attention to the nature conservation value of wetlands and the need for their careful use and management.

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This set of 14 (A4) cards and 12 (A5) posters features illustrations of wetlands and shows some of the plants and animals that live there. Designed as a teaching aid, the cards can be used as a starting point for studying local ponds.

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Measuring 33 x 23 cm, the leaflets illustrate the main types of wetland: freshwater, coastal and salt marsh, the various plants and animals that live there. The leaflets are designed to be used as a teaching aid, and can be used to introduce more interesting facts and figures about the wetlands.

Nature Conservancy Council for England
1, Grosvenor Gardens, London SW1A 2AA

ORDER FORM: to be returned to "Wetlands Campaign", Springfield House, 101 Avenue, Bristol 1, Gloucestershire. Tel. 0274 2511. The price is £3.55. Wetlands cards £3.55. Leaflets £1.00. Postage £0.50. Total £5.05. Please enclose a cheque or postal order.

NFER chief asks for more

by Bob Doe

Mr Alfred Yates, director of the National Foundation for Education Research, called this week for a new body to monitor the curriculum for 16s to 19s. He was giving evidence to the Commons Select Committee on Expenditure, who are looking at priorities and decision-making in the Department of Education and Science.

Asked what research the NFER were doing on education and training needs in industry, Mr Yates replied that they had only recently been pressed to do this. They were now devoting some of their resources to the 16 to 19 age group. "One of the problems is that there is no funding body for curriculum development in this field which I think is an omission. There ought to be some sort of body, like the Schools Council, with funds available to support curriculum development for this group."

Mr Yates also wanted the return of the central education advisory councils, or at least "some

standing machinery for discussion between three partners in the education service", though the councils would be able to suggest fruitful lines of inquiry for educational research. He was against setting up a central Education Research Council to administer government money for educational research because it could mean a stereotyped approach. However, more money for research was badly needed.

Asked what was the effect of education research, he said it tended to "take the heat out of debate" and produced a more rational discussion of contentious issues.

Sir John Rodgers, Conservative MP for South Wales, a member of the committee, said the foundation seemed to be concerned with issues, like mixed ability teaching, rather than major ones, like how comprehensive education compared with other forms. Mr Yates said it was sometimes difficult to frame the question in such wider studies and to compare like with like. The foundation's funds were limited and they had to do the research sponsors paid for.

Art colleges get their perspective all wrong

by Sarina Turner

Art colleges were criticised for their failure to train art teachers at a seminar organised jointly by the National Society for Art Education and the National Association of Teachers in Further and Higher Education last week.

Mr Peter Walton, dean of the faculty of creative art at Croydon and Alsager College of Higher Education, said the colleges' fine arts departments were directed to the "vocational training" of professional artists. Their preoccupation was creating serious problems for the future. "If we exclude about 25 people, there is no profession of fine artist in this country."

Most fine art students became teachers. In a survey of one year's intake, the percentage who intended to teach increased from five to 95 by the end of the undergraduate course. While the present fine arts training was undoubtedly right for some students, the numbers of places had "got to be limited".

Mr John Tutton, head of the art division at Northumberland College of Education, said that during the 20 years in which art colleges had established academic respectability for art and design "no substantial recognition that many students would become teachers has been allowed to dilute undergraduate courses".

Neither in art nor in education colleges were students adequately

trained to deal with children's creative work. Neither the option of a year tacked on to a specialist "degree" nor a "three-year course with a minimum of studio practice" were satisfactory.

Improvements would follow if teaching were seen from the outset as a legitimate employment. A talented fine art student, "if it is respectable to train designers, why is it not respectable to train teachers?"

In the background to the seminar was the fear that art will be drastically affected by the cuts in teacher training places. Until Circular 1/76, many people had hoped that the 14 centres preparing art graduates for Art Teacher Certificates or Diplomas would be exempt. Teachers and lecturers at the seminar, however, were anxious about the whole future of art education.

The discussions, which are to be published in full by NAFTE and NSAE, also reflected the concern of teachers and lecturers that any reorganization should be constructive.

Suggestions included recognition of art and design as separate disciplines, greater emphasis on teaching art teachers in primary education, integration of art into general "creativity" studies, more provision for full and part-time in-service training and more consultation between school and FE.

Now it's remedial classes for universities

by Stephen Cohen

Universities are worried about the extent it could lead to the need for longer courses—and the considerable accompanying expense—to maintain the standard of the degree.

Some students, he told a news conference in London, were not able to cope with the mathematical equations and often have poor grammar and vocabulary in their languages.

Sir Fred Dainton, chairman of the Universities Grants Committee, said his annual report this week would have been concerned to hear evidence on our visits (to universities) that some students are now coming to university well equipped with the ability and willingness to learn but without the basic skills and information they need to pursue the courses for which they have entered.

This includes some students with good A-level grades and aptitudes particularly in science and technology, but it is also found in languages and other arts subjects.

"Such shortcomings, when they come to light, are frustrating to staff and students and valuable time has to be spent at the university making them good."

He was aware of the difficulties of staff in schools, "but we nevertheless think it right to sound a note of warning now, since if this week that children should be encouraged to "write as they speak".

Children's writing in schools was "expressive", included stories and poems, reflected their feelings, and secondary schools this still applied and most of their written work became "transactional" in nature, formal descriptions, reports, facts. "Somewhere between eleven-and-a-half, special writing disappears."

Miss Martin was talking at a meeting of the Association of Directors of Colleges of Education, which was also to discuss the work of the Association for Science Education.

She said the project on writing across the curriculum, which was a 2,000 piece of writing, was found that 80 per cent of the written work in schools was in the form of a formal nature. In science, for example, the figure was 92 per cent. "It is like to see a much wider range of writing across the curriculum."

Science teachers claimed teaching children to think for themselves but less than a tenth of written work the project was based on contained special theories or theorizing. "It doesn't matter that it is taken upon itself a narrow confining interpretation of the whole concept of education."

Dr Rosalind Driver, from Leeds University centre for the Science Education, said: "The Science Education, in honour of Dr Robert Holland, a former director of the polytechnic, began by analysing Britain's scientific education for the last 10 years. He found that in a century and a half, there has been a very imbalanced about the understanding of the science."

Nancy Martin on language in the curriculum: page 19

extent it could lead to the need for longer courses—and the considerable accompanying expense—to maintain the standard of the degree.

"If we have to increase the length of the courses, the cost goes up." Even Oxford University had noticed that some students were not up to the standards expected.

This lack of skills could be due to changes in school syllabuses which had not been noted by university lecturers. Or it could be due to changes in staffs and schools which could not be avoided.

Schools and universities were not interdigitating. Universities had not become accustomed to Nuffield type courses and had to adapt their first year's work.

Professor Richard Atkinson, of the UGC arts subcommittee, said students were less well-prepared in grammar and vocabulary. There was some concern about the decline in

general competence in written English, but this had not reached serious proportions.

Universities, says the report, cannot continue to make economies without damaging academic standards. Freezing jobs—stopping recruitment and promotion—was leading to an unbalanced age distribution and depressed career prospects as well as to the loss of promising young graduates.

The rules which prevented universities from subsidising their catering and hostel accounts had led to increased food and lodging charges, which were hitting students hard. In some cases the rules were not being followed and subsidies were being made. "This state of affairs ought not to be allowed to continue."

The picture was not totally gloomy, however. Sir Fred said that the output of British universities could not be matched anywhere in the western world. About 30,000 academic staff produced more than 65,000 graduates last year. Nearly 4,000 doctors and dentists were added to the country's skilled manpower along with nearly 8,000 engineers.

University Grants Committee Annual Survey 1974-75. Cmd 6435, HMSO, 50p.

BEC make English everybody's business

Business studies students, from secretaries to accountants, who take the new Business Education Council courses will have to learn to speak and write simple English.

This is one of the main requirements of the proposed courses, which are described in BEC's first policy statement published yesterday.

"They must also be sufficiently numerate to understand the administrative and business problems which arise in an advanced technological society. They must be taught to think of the consequences of decisions on a firm's profits and on the people employed by it."

The council was set up to replace the many different kinds of business education courses with a single national system. And because BEC have defined business in broad terms their work covers virtually all non-degree education that is not scientific or technical.

Mr John Bruce Luckhurst, chairman, says in an introduction to the statement that business education is the central engine room of British industry, commerce and administration.

"BEC is not concerned with the limited world of the business school graduate, the brilliant specialist or the outstanding scholar. Its purpose

is to raise the standard of education in business studies for the very large number of those who make British business work."

From next year colleges will start running the courses at three levels—the general diploma (or certificate); the national diploma (or certificate); and the higher national diploma (or certificate).

The general certificate and diploma courses will be worked out by BEC. To begin with, the national courses will be produced by them, but it is hoped that in the first five years many colleges will propose their own courses. At the higher level, BEC expect simply to validate courses which originate in the colleges.

As the result of comments on their consultative document last year, BEC are trying to involve employers more directly in planning courses. They will be invited to join the four BEC studies boards. When colleges put up their own courses for validation, BEC will make sure that local employers have been involved in planning them.

Courses will be offered full time, part-time or on a sandwich basis. Business Education Council First Policy Statement, 76 Portland Place, London W1.

Scholarship before skills puts kids under Britain—Smith



Sir Alex Smith

showed that social, administrative and business studies more than doubled in that period, while science and technology declined by a quarter.

Sir Alex added: "For every new student enrolling in 1973 to study production engineering, there were five in economics, 12 in law, 16 in sociology and 40 in business and commerce."

At the same time the number of students on day-release courses has actually declined by about 50,000, in spite of recommendations by the Hensler-Heston committee that these students should double from 1964. He concluded that day release has obviously received no support, in spite of being "a task of immediate national importance".

"Given the choice between expanding the provision of full-time higher education and improving the provision for the day-release student, I know where my preference would have gone. I would have given the day-release student the good quality facilities, the good libraries, the good computer rooms, the good classrooms, the good environment, the best teachers."

"The best in education ought to go to those who are already earning their living. Had the education system followed that course, I venture to give my assessment that it would have made a much better contribution to our social and economic well-being."

"I have no hesitation that it is an integral part of the purpose of education that it should make less contribution to our social and economic well-being, as well as to our cultural and artistic vitality. We have no right to expect a huge appointment out of public resources if we do not accept responsibility for building up the foundations for creating these resources."

Times Higher Education Supplement.

Rank Strand down your way 1976

The success of the 1974 and 1975 Rank Strand touring exhibitions prompts us to stage a third during March, April and May in association with our stockists and distributors. Our repertoire will include four Rank Strand spectaculars—Micro 8 self-contained packaged control, Compact memory systems, Mini-2+ packaged controls and the latest in the T-Spot series, plus a selection of luminaires from the current range. There will also be examples

of stage equipment and auditorium furnishing schemes prepared by Rank Strand.

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Nottingham Thursday 8th and Friday 9th April Cripps Hall, University of Nottingham, University Park, Nottingham.	Sheffield Mon. 12th and Tues. 13th April University Drama Studio, University of Sheffield, Shearwood Road, Sheffield.	Leeds Thursday 22nd and Friday 23rd April Drama Studio, Park Lane College of Further Education, Park Lane, Leeds.
Newcastle-Upon-Tyne Mon. 26th and Tues. 27th April Newcastle-Upon-Tyne Poly, Trinity Hall, Northumberland Rd., Newcastle-Upon-Tyne.	Lancaster Thurs. 29th and Fri. 30th April Nuffield Theatre Studio and Workshop, University of Lancaster, Bailrigg, Lancaster.	Manchester Monday 3rd and Tuesday 4th May Lester Free Trade Hall, Peter Street, Manchester 2.
Rhyl Thursday 6th and Friday 7th May The Little Theatre, Vale Road, Rhyl, North Wales.	Belfast Wednesday 12th and Thursday 13th May The Members' Room, Balmoral Showgrounds, Lismore Road, Belfast.	Glasgow Monday 17th May The Royal Scottish Academy of Music and Drama, St. George's Place, Glasgow G2.
Aberdeen Wednesday 19th May Teacher's Resources Centre, St. Paul's Street, Aberdeen.	Inverness Friday 21st May Eden Court Theatre, Bishop's Road, Inverness.	Perth Tuesday 25th May The City Hall (Lester Hall), Perth.
Edinburgh Thursday 27th May The Melville Room, Royal Mile Centre, High Street, Edinburgh.	Rank Strand Rank Strand Electric, 10, Box 70, Great West Road, Brentford, Middlesex TW8 9JF. Telephone 01-893 8222.	

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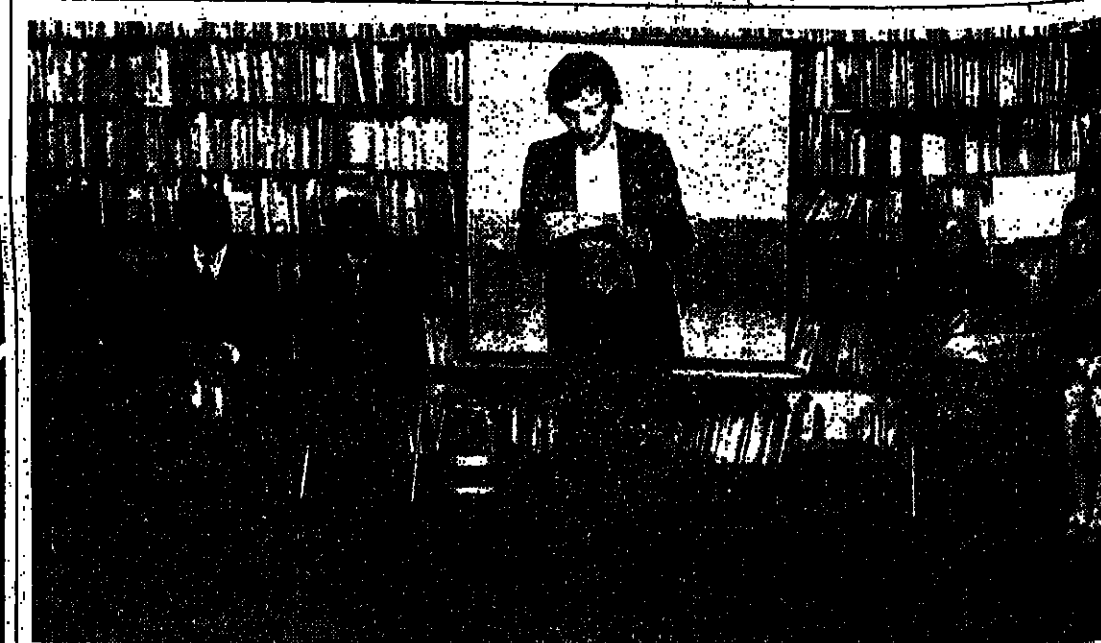
College lecturers will oppose any attempt at compulsory redundancy or redeployment, say the National Association of Teachers in Further and Higher Education.

The Government are thinking of allowing local authorities to offer generous compensation to teachers they want to get rid of. Polytechnic and college lecturers would be included in the scheme.

But while the association recog-

nize that some colleges will face substantial reductions in their loads as a result of falling birth rates, alternative courses, they say in a statement this week, should be developed to take up the slack.

Staff should be redeployed or other duties and provision should be made for voluntary redeployment. Where there was no chance of other jobs, the association would be prepared to accept compensation.



Paul Bailey, the novelist, who has been helping pupils of Woodberry Down School with creative writing, reads some of their work to parents.

The Headmasters' Association annual conference opened in Cambridge on Thursday. Philip Venning assesses the changing role of the association and talks to its new president, Pat Martin (below)



How the HMA went comprehensive

In the past 10 years the Headmasters' Association has undergone a gentle, orderly and bloodless revolution. From being a poor man's Headmasters' Conference, with public school and aspiring grammar school heads, it has moved into mainstream secondary education, with a majority of comprehensive school members.

Total membership has risen from approximately 1,500 in 1967 to 2,000. In 1969 there were only 350 comprehensive heads as members. Now there are over 1,200.

In some senses it is only a paper revolution—many of the comprehensive heads were former grammar school members. But it has meant that the HMA has had to broaden its interests, to move from the traditional concerns for the academic pupil to the needs of all secondary pupils "from remedial through CSE and GCE to Oxbridge entrance", according to Pat Martin, this year's president.

Paradoxically Pat Martin is the first independent school head to be president of the HMA for quite a while. Since 1962 he has been head

of Warwick School, Warwick—the school that produced Mr. Fred Astley, the Education Secretary, who will address the annual conference tomorrow.

Pat Martin was also one of the first comprehensive school heads in the country when Clipping Norton Grammar School reorganized in 1964. Before that he served as assistant director of education for Brighton from 1950 to 1952.

"Because we now strongly represent different sorts of school, the president must be someone able to see all sides of the question", said a long-standing HMA member, "Pat Martin is a person with pretty catholic views."

His unanimous election supports his belief that the areas of common interest to members are greater than their divisions. The real danger of a split was in the early days of secondary reorganization when the traditionalists fought a strong rearguard action. This row had now been settled.

"We do obviously argue against each other, but we do continue to

produce national policy on which we can all agree."

The difficult question faced by the association in the next few years will be over its almost incestuous relationship with the Headmasters' Conference. Both were set up in the nineteenth century, they share headquarters and staff, and all HMC members are members of the HMA, though not vice-versa.

So far the relationship has not caused much controversy, and the associations still produce some joint policy statements and invite representatives to sit on each others' working parties. But some HMA members feel that as the independent sector becomes increasingly isolated and most members are building closer links with the maintained system such a close link will be hard to sustain.

The association belongs to the Joint Four, and is represented on Burnham. One of its main committees is devoted to the professional aspect of teaching, but the main interest is still in the curriculum. And this is a strongly unifying interest.

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Hard core and the quality of life

Pupils should spend less time learning about the quality of life and more time learning about the quality of their own lives.

Mr. P. H. Martin, President of the Headmasters' Association, said that the quality of life was a topic which should be taught in schools.

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Parliament

1944 Act still meets R E needs—Minister

Reports by Alan Wood

Margaret Jackson, the new Secretary for Education, made her maiden speech in the Commons last night in reply to a debate on religious education in schools.

She said that the 1944 Education Act still met the needs of religious education in schools. She said that the 1944 Education Act still met the needs of religious education in schools.

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shared values common to all communities in a multi-cultural society. It had been suggested that some schools dispensed with the act of worship altogether, if that was the case, then the law was not being complied with, but she thought it would be acknowledged that where there had been departures from the strict letter of the law, it had been done so that the spirit of the law and of religious education might be better preserved.

She agreed there were not enough specialist teachers and there was still a lack of qualified candidates for the courses available. They were trying to encourage teacher training institutions to ensure that recruitment would be maintained.

The 1944 Act had provided a flexible framework for the development of education over the past 30 years and had reasonably safeguarded rights of individual conscience. Development of the agreed syllabus had preserved the tradition of local responsibility.

Mr. Norman St. John-Stevens said the Opposition fully supported the maintenance of the present religious clauses in the Education Act. There had been acute controversy over the locally agreed syllabus in Birmingham because of a handbook of suggestions for teachers which devoted 40 pages to discussing communism. The right place for children to learn about communism was in part of a syllabus dealing with political philosophy, where it could be treated to the intense critical examination which was appropriate.

"There is little doubt that an agreed syllabus on religious instruction which devotes a major section to imparting non-religious views would be contrary to the provisions of the Education Act and would be open to challenge in the courts."

The purpose of religious education should be the awakening of children to the spiritual dimension of life and to the possibility of making religious choice and commitment. If teachers were to be successful in their duties in this sphere, there must be opportunities for in-service training. The colleges of education needed to think about how they could help with initiation and training.

Nobody in Britain should underestimate the threat to their values and to their way of life which existed. "People who are arguing that we should do away with moral and religious education in our schools, that we should weaken the curriculum subjects, and any they should be made optional, are engaged in destructive and dangerous work and they are recognizable as hucksters, even if they wear no bear skins, wield no clubs and have nothing more powerful in their hands than a ballpoint pen."

Mr. Alison said religious education was an essential feature and ingredient in any syllabus of education. Religious education without worship was rather like trying to learn geography without field studies or learning languages without taking a trip overseas. The act of assembly was essential even if it had to be done in two places or in two sections.

Although the predominant emphasis should be Christian, he said, it should be broad enough to include other religions.

Mr. Gerry Emmet, Minister of State for Education and Science, said he hoped they would make progress in future in determining the best method of continuing education for 16-year-olds.

would not want to assert that every act of worship should be exclusively Christian any more than every lesson should be exclusively Christian. An act of worship helped to create harmony.

The way forward from the 1944 Education Act must not be to dismantle the entrenched provisions but to improve what they sought to establish. Special help should be given to religious education. Religious education should not be allowed to become the Cinderella of the syllabus. Special help was needed to enable experienced teachers to do in-service conversion courses, and for religious education in teacher training institutions. Further in-service training centres would be desirable.

All L.E.A.s ought to have an adviser or inspector with special responsibility for religious education. Chief education officers should be encouraged to see that proper, reasonable provision was made for religious education while the subject remained compulsory. In many cases that was not happening.

Nothing could be more cruel for children than to pretend that religious education was not an essential ingredient of education and pay lip service only to it.

Mr. David Wiltman (Hackney, North and Stoke Newington, Lab.) said there had been a deterioration in religious and moral instruction. Many would ascribe the present laxity in the welfare state, the increasing crime and lowering of standards of morality to this fact.

Dr. Rhodus Boyson (Brent, North, C.) said religious education, the teaching of Christian religions and its history, was basic to an understanding of society, its culture and learning. Diversity of religion among pupils was often raised as an objection to religious education in schools, but if necessary, separate facilities could be provided for different groups.

Sir John Hull (Wycombe, C.) said that even in a multi-cultural society the teaching of the Christian religion was still essential. Religious Education should be strengthened, not weakened. There should be more teachers for the subject. It should be based on the Christian faith. Comparative religion could be

introduced later, but to do so at the beginning of a child's schooling could only cause confusion.

Mr. Ivan Davies (Enfield, North, Lab.) said that many MPs would be expressing a dissentient view, but he would. He was a humanist. Worship in maintained schools raised particular problems. A school was not a community of Christian believers and they should not require children to go to forms of worship if they had genuine belief in what that act of worship represented.

The purpose of the Education Act 1944 was clearly constructed in terms of religious instruction to induct children into Christianity. He did not believe that position was accepted by most serious educators. They sought to develop Religious Education, not religious instruction. With the example of Northern Ireland, they must guard against lack of respect for moral positions other than their own.

Mr. William van Straubensee (Wokingham, C.) said few people would seek to stand four square on every jot and particular of the 1944 Act as it stood. He would doubt whether it was necessary for the act of worship to be when the day began; it need not necessarily be a single act attended by all the school. He accepted that the special difficulties of those in sixth-form colleges needed attention.

Large numbers of parents were deeply anxious about the moral background into which their children were being born and reared. They were anxious lest the moral education they received would be so objective, fair and balanced that the young people would be left without any firm values and guidance on all sorts of major moral questions.

Mr. Anthony Fell (Yarmouth, C.) said he was sceptical of the value of religious education in state schools, but it was better than nothing, although unlikely to do a great job for the Christian faith. Christian teaching must begin and continue at home.

Mr. Richard Crawshaw (Liverpool, Tostich, Labour) said a distinction should be drawn between religious education and the propagation of a particular religious belief.



Dr. Alan Glyn (Windsor and Maidenhead, C.) said that any change for the worse in the 1944 Act would help the country down the road towards atheism and agnosticism.

Mr. John Stokes (Halesowen and Stourbridge, C.) said the decline in religion was one of the main reasons for Britain's decline as a nation.

Mr. Alan Clark (Plymouth, Sutton, C.) said that every MP must be aware of the acute and grave disquiet which affected all social groups at the direction in which the education system was moving. Any attempt to change, still less to dispense with religious instruction in schools, would be the last straw. There were many so-called humanists whose real purpose was to undermine and subvert the existing structure of society. Their desire to remove religious instruction and substitute the absurd "stances for living" was a good example of the way they went about their work.

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To help you, we can arrange for you to talk with some R.A.E.C. Officers and to pay a three day visit to our headquarters, or spend a day at an Army Education Centre in your vicinity.

The first step though, is to write giving brief details to Major O. J. Massey LLB, R.A.E.C., Ministry of Defence (Dept. N), Empress State Building, Lillie Road, SW6 1TR.

Army Officer

Leas refuse allocations

Leas in England had refused all or part of their nursery building allocations. The Secretary for Education, Mr. Margaret Jackson, said that the Leas had refused allocations for 1975-76. The Leas had refused allocations for 1975-76. The Leas had refused allocations for 1975-76.

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Why are parents queuing up to get their children into a scruffy East End private school? Bob Doe went to find out

Profile of an amazing school

John played truant for more than four years, but at 14 he is now a regular attendee and preparing for O levels, at a remarkable school in the East End of London. The Gatehouse Learning Centre copes with "refugees" from normal schools like John, as well as a variety of severely handicapped children, normally children and some who are highly gifted.

The integration of blind, deaf, spastic, mongol, autistic, psychotic and supposedly "disruptive" children excluded from other schools makes this independent school in Bethnal Green a considerable social as well as academic success. Three hundred children of all ages up to 16 learn together in the same classrooms, and choose what to learn and when.

Mrs Phyllis Wallbank, the head who founded the school nearly 30 years ago with a few children and £8, says "We give our children responsibility for their own learning". And, it seems, for much more.

The school uses Montessori methods, "going with nature instead of against it". It offers each child a separate curriculum and personal tutoring from the 20 teachers.

"The school's success stories are numerous. They include a first prize at last year's International Mathematics Olympiad in Hungary, mongols who read and play chess, scholarships and entrance examinations to other schools. O level, A grades, dyslexics who get O levels, and severely handicapped children who gain the confidence and qualifications to establish careers."

Gatehouse's popularity with parents testifies to the results achieved by both handicapped and other children. There are as many as 100 children on the roll at present, though the school has never produced a prospectus or advertised.

It is certainly not the plushness of the place that attracts them, for the premises seem scruffier than the oldest and scruffiest state school. The building is an old church hall with several attendant rooms and offices. The yard outside, shared with the school's two ponies, is barely made up and hemmed in by large blocks of flats.

Most of the furniture and equipment—and there is not much—looks secondhand and improvised. In the large hall where 400 or more children may be working together, many sit at old plastic-covered kitchen tables. The "equipment" in the basement, artroom, seemed to be little more than a few bits of poster paint.

Fees are kept deliberately low, at £10 a term for the youngest children and £150 for the oldest. This, and the 10 per cent of free or reduced fee places, encourages more children from the East End, as well as those who travel from all over and outside London.

Mrs Wallbank says they come because of the school's reputation for results with all kinds of children. "We believe in academic excellence but not in crushing the child's natural enthusiasm. Academic achievement is important to the child's whole attitude."

The result is that children enjoy a lot of freedom within a highly structured plan for their education. Each child has a timetable which consists of a list of subjects and how many half-hour periods they must study them each week. They also have about four periods when they can choose whatever subject interests them most.

During the hours set aside for working, they choose which subjects they want to do from their list, though they must get each period of work acknowledged by the teacher responsible for the subject chosen. By the end of the week, they must also have worked through all the subjects on their timetable.

The children do not choose what goes on their list. Most find themselves doing Latin and French from the age of seven as well as the three Rs, geography and history.

Mrs Wallbank is amazed that more schools are not like this. "I don't see why all education is not geared to the individual," she said.

At Gatehouse this has enabled teachers to tailor a curriculum for each child. They could provide what was best for the most able as well as for the least able, and give them something they could work at and achieve.

The number of library authorities facing cuts in their budgets is likely to double in the coming financial year. Only one in three is likely to be clever, brave or rich enough not to have to make cuts in real terms.

In progressive London authorities like Lambeth and Camden and Labour-dominated areas cuts are most likely to be kept to a minimum. In South Glamorgan, for example, there is to be a slight increase in the book fund in real terms.

But the shire counties, disappointed in the rate support grant for the next year, will find it difficult to maintain services. While Shropshire, Devon and Cumbria are confident of keeping cuts to a minimum, hurried cuts have already been made in Leicestershire, and Cheshire will have to close their libraries on Saturday afternoons because staff are paid at overtime rates. About £97,000 will be saved in the shire counties by allowing staff to fall by 10 per cent. At times of sickness or holidays isolated libraries may have to close.

There will be fewer new novels and popular non-fiction and more paperbacks on library shelves, fewer new books in the children's libraries and no story-hours. Newspapers and magazines will be in shorter supply and records and cassettes will still be limited to the larger libraries. As a primary resource service for projects, libraries are having their wings trimmed before teachers have fully learned to exploit them.

But it is in the commuter counties of the South-East that libraries are really being hit. Buckinghamshire, which had a cut of 77 per cent in its book fund last year, has shelving a shy autistic child from rough play in the yard or covering the sharp corner of the desk with his hand when a blind classmate walks by.

The precise reason for such development is difficult to pinpoint. It undoubtedly owes much to the head's impulsive energy and enthusiasm which she is well equipped to transmit throughout the school. From her office, which shares with two dogs, a St Bernard and a Scottie, she is in touch with the school, even the lavatory through a complex intercom system. She uses this as the school's nervous system to relay urgent messages. "Does the pack of sandwiches just found belong to the head's child who should have eaten them at 3.30?" or to communicate enthusiasm to a child who "buzzes" to tell her about a special achievement.

With this device she is omnipresent, but she augments it with a loud-buzzer with which she is able to leap to her window to summon in some child from the yard to make her point about this or that aspect of the school.

She has the sort of determination and compassion that makes her bother with things others might believe no more merited attention than an annual "review" by a hospital consultant. There is no improvement and no suggestion about how to help the child, until the school asked for help. In the event, it turned out she needed an operation on her foot and just had to be taught to swallow regularly.

Mrs Wallbank has strong views on how the school should be run. She believes in a "permissive" but Mrs Wallbank denies this.

For John, now a confident, self-possessed young man, this environment meant freedom. "There's no one to push you around here. No one telling you what to do all the time."

Mrs Wallbank is unhappy to see the school judged only on academic success and nothing as the way in which severely handicapped children are integrated. She says the handicapped benefit from mixing with normal children and being taught by teachers whose horizons are not confined to the failures of other handicapped children and raises their expectations. The school's pupils include a lawyer's clerk who was born with brain damage and an architect who was confined to a wheelchair.

The benefits of integration are not all one way. Children developed "sensitivity without sentimentality", said Mrs Wallbank, and a sense of responsibility. No one is allowed to look after the severely handicapped children around the school or at playtime. It just happened spontaneously, and involved even the hardest cases.



Libraries on borrowed time?

by Jill Turner

fund, though double last year's, is only a third of original projections.

That is a miserable picture in a county where the penny rate yields £930,000 and which has fallen from among the top spenders to bottom place since local government reorganisation. Seven thousand ratepayers have signed a petition against the cuts and the National Book Committee have called a meeting on April 22 at which Sir Hugh Greene, the chairman, and Douglas Fosket, president of the Library Association, will speak.

In an attempt to protect members from cuts in overtime and understaffing, the National Association of Local Government Officers have distributed pamphlets complaining about the "half-empty shelves", long waiting-lists and the shortage of magazines and newspapers.

Hard-up Steiner schools seek state support

by Laura Kaufman

The Steiner Schools Fellowship have applied for financial aid from the Government for their 10 British schools. The schools, which are independent and coeducational, were founded 50 years ago to cater for children from all social classes, irrespective of intellectual ability.

Mr Ronald Jarman, chairman of the fellowship, has asked Mr Mulley, the Education Secretary, for government help so that the schools can continue to accept children from poor homes. In the past they were able to do so by offering bursaries or free places to some children while charging fees to better-off parents. All the teachers accept salaries below Burnham rates.

Now because of increased costs the schools do not make enough money to pay for bursaries and they are having to raise their fees regularly. They only take a small number of local authority financed children, who are often there because they have been classified as maladjusted.

Mr Mulley suggested the schools should seek voluntary aided status from their local authorities. Under this system, all the running costs of a school and 85 per cent of new capital costs are borne by the local authority, who, in return, nominate one third of the members of the governing body. No fees are charged.

Mr Jarman has approached the directors of education in areas with Steiner schools, and three schools are now negotiating for voluntary aided status. But in most cases the local authorities even if sympathetic are unlikely to be able to offer help. Legally, a local authority must have the Secretary of State's permission to open a new voluntary aided school and permission will only be granted if the local authority have no empty places in their own schools. Only if

School libraries, however, have not been hit so hard. Mrs Wendy Drewett, the deputy county librarian with responsibility for the £500,000 school library service, has a book fund of £85,000, which allows her to supply 3.2 books a head to schools as a loan and project supplement to their basic stock. She would have liked that raised to £130,000—which would have allowed 4.5 books a pupil—and to have been able to establish a central purchase scheme.

In Surrey cuts of £177,000 from the total book fund (which includes £11,000 for school libraries) will bring it down to half the DES standard. This is only part of a total library cut of £300,000. All libraries will have to close on Saturday afternoons, and smaller ones may open only in the mornings. The school library service will have its allocation reduced from £130,000 to £99,000. A petition against the cuts originated by librarians has been signed by 19,000 people.

Glasgow councillors feel that the unique problems of the city—which has so many council tenants that the few owner-occupiers bear a disproportionate share of the rates—have not been recognized by the Government. Savings of £6m have been made and the rates have risen by only one per cent: £390,000 of that has come off the library service.

The Mitchell Library, the city's famous reference library which opens on Saturdays and Sundays during the winter, will be closed all weekend. This is likely to lead to protests.

"The problem is not public apathy but the Government directive," says Mr William Alison, director of libraries in the city. "They are very conscious of the value of libraries in Glasgow."

But Mr Alison is worried that the cuts will contribute to unemployment. Recruitment has stopped and there will be no vacancies for young people in the summer.

At the same time those already unable to find work are rediscovering the value of the library. The heavy demand for books that borrowing has had to be limited. The final irony in Glasgow may be when people retraining under the Department of Employment TOPS scheme are unable to get the books they need from their local libraries.

Jill Turner is deputy editor of the "Library Association Record".

Teacher-editor squares up to his critics

by John Horgan

Social and political education in the Irish Republic's 900 post-primary schools was brought sharply into focus last week by a controversy over the alleged political bias of *Young Citizen*, a civics magazine for schools.

Young Citizen is published by the Institute for Public Administration, a Government-funded agency which runs training courses for civil servants and other administrators and also has a substantial publishing programme. It is sold to the schools in bulk, and its circulation is between 12,000 and 13,000. Its editor, Mr Declan Burke-Kennedy, is a teacher on secondment from a local authority school.

Young Citizen's dependence on public funds, and the overwhelmingly religious character of most of the post-primary schools which take it, have combined to create difficulties in the past when sensitive issues have been treated in its pages.

Some years ago a different editor decided she would print articles analysing the arguments for and against making the sale of contraceptives legal in the Republic. Still a live issue, as several Bills designed to achieve this and have been defeated in Parliament in recent years.

She gave the arguments in favour of legalization first and, as issues of the paper are separated by several months (it normally appears twice a term), her decision soon became a major source of controversy. Many individual schools cancelled their subscriptions, and at least one group of religious principals made their displeasure plain in a letter intended for internal circulation but which eventually became public.

Alarm was caused on another occasion when the commercial printers who print *Young Citizen* sent copies to schools wrapped in waste off-prints from a fashion magazine which included photographs of models posing in bikinis. Girls' schools, in particular, found this offensive and were not slow to complain. From all this circulation suffered, and it took some time to recover.

The latest controversy centres on an article by the editor about the theories of Ivan Illich, who recently visited Dublin. This has drawn the fire of a member of one of the country's major Catholic teaching orders, who has attacked the article as "hitting 'the depths of mediocrity'".

In recent years, he said, the magazine has been "recking with pseudo intellectual Marxist philosophies, biased reporting and many inaccurate personal opinions".

The editor, who replied in measured tones that the criticism quoted above was "simply a loose form of expression intended to raise alarm", has made it clear that he does not intend to be intimidated, and has expressed his support for Illich's questioning of "the present passive view of learning implied in the way we have organized and built our schools".

It is an indication of the sensitivity of the whole area of political and social education that this controversy should have arisen in relation to civics. Civics, as a subject, was introduced in the 1960s as part of an early attempt to make the curriculum more directly related to life outside the schools. It is not an examination subject, however, and therefore suffers from—or enjoys—a lack of definition.

The current spate of controversy, if nothing else, should help to ensure that it will be taken more seriously in the future, although political education as such in the Republic is still in its infancy.

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Italy

Secondary changes come step nearer

VERONA from Dalbert Hallenstein

The issue of secondary school reform is finally being tackled at Parliamentary level. The Lower House committee has now begun to discuss a Bill presented by its Socialist president, Renato Ballardini, which unifies elements from seven secondary school reform Bills already presented by Italy's various political parties.

Although two of the seven Bills were proposed by the governing Christian Democrat Party, Signor Franco Maria Malfatti, Education Minister, has not yet presented his Reform Bill despite a promise to do so by the end of last June.

The decision by the Lower House committee to avoid further delay and to go ahead with discussions to unify existing proposals for Parliamentary debate is regarded as a sharp criticism of Signor Malfatti's tendency to pigeon-hole the explosive issue of secondary school reform.

Eventually, however, the schools committee will have to integrate the Government's reform proposals into any unified Bill which it presents for Parliamentary debate.

The Ballardini proposals suggest extending the age of compulsory schooling from 14 to 16. This it would do gradually and in two steps. The first, prolonging compulsory school to 15, would come into effect 10 years after the Reform Bill became law, and three years later the school-leaving age would finally be raised to 16.

The proposed 13-year delay is explained by existing problems of pupil accommodation with inevitable natural growth in the school population, plus the problem of accommodating the new generations of 15 and 16-year-olds. Adequate schools could not possibly be provided in less than a decade.

Specialized secondary schools, issuing professional diplomas, would be abolished and replaced by schools, resembling Britain's comprehensive, which would offer common basic subjects, together with a wide variety of optional courses.

University entrance examinations would be held after four years, a year earlier than the present "maturity" examinations. Pupils wishing to take a professional diploma could do so after a further year of specialized studies.

Each school district would be expected to set up at least one new general comprehensive school offering all subjects, while the other already existing reformed secondary schools (with their inevitably limited programmes) would be planned to cover cumulatively, within the district, the whole range of subjects offered.

Soviet Union

Vocational drive aims to ease shortage of skilled workers

from Jennifer Louis

MOSCOW The Soviet educational system faces the task of training five million skilled industrial workers within the next five years. The figure is part of the plan for the development of the national economy between 1976 and 1980. The workers must possess a 10-year general secondary education.

It is this last requirement that poses the most serious problems. The present training system is still unsatisfactory. Young workers are often taken on lacking either skill or education or even both. Large industrial enterprises and the factories in the cities suffer a chronic shortage of skilled labour. In the machine-building industry alone 75 per cent of spoilage results from the low professional qualifications of young workers.

New, sophisticated technology and the machinery that Russia buys from the West also require better training and education. To supply the economy with the necessary workforce, a new type of vocational school is now being developed.

At present these admit boys and girls of 15 and 16 after eight years of education at an ordinary secondary school and they receive another three or four years of training, depending upon their profession, combined with a general education to bring them up to the standard of schooling of those who complete the 10-year course.

About 10,000 young workers complete the course at schools of this type annually, but the schools have difficulty in filling their classes. The children either prefer to leave school after eight years and go straight out to work or, which is more popular, to stay in at school for the 10 years that enable them to sit for university or college entrance examinations.



Young workers at a Moscow factory.

Council of Europe

School passports for 1.5m 'foreigners'

Children from any of the 18 member States of the Council of Europe attending school in another member State are to be issued with school career and health record books. These "passports" will be recognized throughout the Council of Europe countries, which include Britain.

They will help in fitting the child into the compulsory school system of the host country and back into his own country's system on his return.

The number of children affected by this scheme is estimated at 1,500,000. The record book will be produced in eight European languages.

After an experimental period it is planned that in-service training will become compulsory for all teachers. The new programmes will be carried out in the existing teacher

provide general education and now seeking to increase their rigour by introducing a new entrance examination and a new system of internal assessment. The schools will be required to provide work for a certain number of hours in industry before continuing their education.

It is these schools that increase their output of an average of a million but, apart from their lack of qualified staff, specially trained teachers, and their training with school, they are not a single teacher training the country geared to these vocational schools.

They are all concerned with 10-year schools' need for and their graduates of the requirements of the vocational schools. It takes another three years of additional training to prepare them fully for the work. It is understandable that they are not enthusiastic about working in the vocational schools. As things stand, the vocational schools give but secondary education in many subjects, literature, foreign languages and geography.

Perhaps the plan to improve facilities at teacher training schools and to develop at their own rhythm is the provision of creating within age classes determined by assessment of the child's maturity, capacities and interests.

These practices will be applied in particular to children as they enter primary school for the first preparatory year, which in future will last for three years and one for others. At present, it lasts for one year and results in more

Farr reports from Paris on wide-ranging changes to be introduced next year throughout French schools

Reforms stress needs of individual

For three decrees implemented by the July 1975 Education Law, the French educational system have been published by M René Haby, Minister of Education. They deal with the two-year course where teachers can give them more time and more attention while others (the Ministry expects this to be around 50 per cent) will follow a one-year course.

In the later primary level cycles, similar arrangements within or even between classes will be made to set up groups by aptitude for different subjects.

To critics who say that these arrangements will result from the very outset in selection and streaming, M Haby replies that it will make it possible for more, if not all, children to follow secondary education at the same speed.

The fundamental change at secondary level is that all pupils will follow the same basic courses in one and the same type of college for four years until school leaving age at 16. In the second of the two-year cycles, they will follow additional courses of their own choice.

The first two-year "observation" cycle will be devoted to French, a foreign language, mathematics, human sciences, economics, natural and physical sciences, the arts, manual and technical skills, physical education and sports.

During the second two-year "orientation" cycle, these same subjects will be studied by all, but pupils will also be able to choose complementary courses or activities in at least one area and one of their choices must have a pre-professional character.

As in primary schools, the heads of colleges will be free to form groups of children within classes or even group whole classes so as to adapt teaching methods and, in exceptional circumstances, to

adjust the curriculum temporarily to capacities and needs. The object of these provisions is two-fold: to give all children by the age of 16 basic knowledge and skills, both intellectual and manual, and at the same time to enable each child to begin to prepare a personal future without being irrevocably committed as a result of options taken at the age of 13 or 14. The final decision on options lies not with the college, but with the child's parents.

When parents and the college disagree on whether a child should continue education after the age of 16 or whether he needs to repeat a year at the end of the observation cycle or of the orientation cycle, parents can ask for a special examination or submit the case to an appeals board.

Innovations at the senior secondary education level are the creation of a common two-year programme instead of the present multiplicity of programmes leading to some 30 different types of baccalauréat, the deferment of specialization until the final year, and the responsibility given to students as they reach the age of 18 and acquire full civic rights to decide their own orientation.

For those who continue education after the age of 16 there will be two types of lycée of equal standing: the academic type as it exists now and the lycée d'enseignement professionnel.

Two to three years of study at the academic lycée lead to the baccalauréat or the Diploma of Technical Studies, both of which could give access to university.

During the first two years at lycée all students will follow six of the same basic courses as at college, namely, French, a foreign language, mathematics, natural sciences, human sciences and physical education. In addition, students must follow during the first year a few optional subjects.

He seems ready, too, to allow the Ministry's chief regional officers and the directors of colleges and lycées more scope than in the past for initiative and diversified action within general directives.

In the second year they may choose to continue with these or instead to spend more time in advanced studies within the obligatory disciplines. Full specialization is postponed to the final year for those who successfully complete the first two years. For that final year students are entirely free to make their own choice of studies except that all must study philosophy and do physical education and sports.

At the professional education lycée, which will replace the present technical education colleges, students will follow two-year courses leading to the certificate of professional aptitude or the diploma of professional studies. Courses will provide general education in all and a wide variety of technical and professional training.

Students who succeed in obtaining the certificate or the diploma can be admitted to the final year at a general lycée with a view to getting the baccalauréat and going on to university.

The three long decrees go far towards filling in the blank cheque which, according to his opponents, Parliament gave M Haby last July. The decrees follow closely the proposals he made in his 145-page statement on the modernization of the educational system published just over a year ago which led to the very definite formulation of general principles embodied in the Education Act.

They show M Haby's concern to find ways of giving all children equal opportunities by providing common programmes with some options while deferring specialization and by adapting structures and teaching methods to different needs and rhythms instead of insisting on uniform treatment for all.

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Tongue trouble

from Mike Duckenfield

STOCKHOLM Far-reaching proposals for increasing mother tongue tuition for the large number of Finnish children in Swedish schools and the strengthening of Russian and Swedish instruction in Finland have been made by Mr Paavo Vilyymin, the new Education Minister.

Speaking at this year's meeting of the Nordic Council in Copenhagen, Mr Vilyymin's call for a complete review of the educational situation of the 40,000 Finnish four-to-19 year-olds in Sweden marks a new militancy by the Finns about the position of their language in the rest of Scandinavia and highlights the problems of one of Europe's largest exporters of labour.

Nursery education for Finnish migrant children ought to be entirely in the mother tongue wherever possible, said Mr Vilyymin. In addition, bilingualism should be avoided in the first three years of comprehensive teaching (7-10 year-olds), again with all tuition being given in Finnish.

The Finnish language should be made an optional subject in the last three years of the comprehensive and the second or third language option in secondary schools—a position at present occupied by French and German.

Accounting for slightly more than 40 per cent of all immigrant children in Sweden, the Finns pose a special problem. More than 300,000 Finns have moved across the Baltic to Sweden during the last 20 years—equivalent to about 7 per cent of the total Finnish population—and many more have taken advantage of the free Nordic labour market.

The Minister said that too many children in Finnish schools were opting to study English as their first foreign language. In the long run this could weaken the position of the neighbouring tongues, Russian and Swedish.

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Damper on French sparks

Sir—While deprecating the somewhat categorical assertions by Jim Simpson (University of East Anglia) that "Modern languages... were designed for grammar schools", I sympathize with Bob Doe's views on the prolonged effects of the NFER report on primary school French (March 5).

Clara Burstall's report was not, perhaps, intended to be a wet blanket; in many cases, nevertheless, it seems to have been used as one, and the sparks generated by enthusiastic teachers of French in some of our junior schools are now being extinguished, or, as Bob Doe suggests, not being allowed to ignite in the first place.

Difficulties in staffing, timetabling and finding the money for the new Nuffield course materials—even being quoted as reasons for halting the demise of primary French. This is a serious loss. It is also a premeditated deprivation, so far as our children are concerned, of what might well have been instructive and enjoyable language contact.

There are other alternatives. Some are already being put into practice, and some of our primary school children, to my certain knowledge, are benefiting from the undoubted attitudes of individual teachers and heads who have found their own way of keeping primary French alive.

Why cannot we, for example, treat "French" as an integral part of the primary school syllabus just like mathematics or English? Instead of the bi-weekly 20-minute infusion of "French", albeit an inconsistent, sometimes at the hands of a peripatetic, specialist teacher who may not meet the chil-

dren or other more protracted occasions and who will, therefore, be disadvantaged by having to re-establish contact, there would be something called, say, "Project France". This could involve staff on a more integrated teaching basis, in which would teach geographical, historical or cultural aspects of the country at a suitably tailored level within the normal framework of geography or history lessons, and others (a class teacher perhaps) would deal solely with the language, all to form a composite image of what might be called "foreignness" in a digestible, self-complementing and, one would hope, stimulating form.

One of the virtues of this approach to primary French as an integrated study could be its close compatibility with the recently revamped and vastly improved En Avant Stage 1 which reinforces its language teaching element with a new and impressive array of visual aids in a real-life French family. The teacher would find that the adoption of French phrases by class pupils can act as a kind of camouflage under the camouflage of which previously recited and less "able" pupils (is there a connexion there?) can operate more successfully.

The teaching sphere of "French", then, together with the calibrated time allotment, could cease to exist at primary school level under these integrated study regulations. Instead French would be involved in a wider context and be involved with the more practical issues: with the French food we already eat, the French words we already drive, the French money and kilometer conversion in our mathematics lessons,

examine the exploits of Pasteur—inter alia—in history or general knowledge. And, about a few white doves in the French corner?

PETER J. DAVIES, Head of languages, Harpenden Technical College, Harpenden, Herts.

Sir—The conclusions of the report have not only had an effect on the teaching of foreign languages in Britain but have also affected the introduction of languages to young children. Michael Buckley has thus reflected of the experience of the introduction of the many positive lessons that can be learnt from this report.

It should be pointed out that the foreign language courses currently in use in primary schools are nearly 20 years old and are not relevant to the present state of language teaching in Europe. In 1972 the European Commission of the Communities, reviewing the state of foreign languages at the time, recommended that they should be far more closely integrated into the rest of the curriculum.

Thus, the conclusions of the report should not be taken as a stifling new thinking about the foreign language in the primary school curriculum. Doubtless the conclusions are incorrect, they appear to be from the ANDREW WRIGHT, Primary English Project, York University.

Treat with caution

Sir—If you publish unauthorized versions of other people's work you are bound to run the risk of getting a bit of stick, and the wrong end of the stick at that.

Your report on "Why teenagers are turning their backs on education" (March 12) incorrectly stated that the survey was mounted by Lancaster University. It was conducted by the Office of Population Census and Surveys.

What you published were extracts from my preliminary and tentative analysis of the data which was circulated to a number of people for comments that may be useful in this final report I am now preparing.

All who received the report were warned that many of the figures and data should be treated with extreme caution because of small sample numbers.

If any of your readers have comments or would like details of the publication arrangements for the authoritative summary of the preliminary report they should write to me.

GARETH WILLIAMS, Director, Institute for Research and Development in Post Compulsory Education, Lancaster University.

Vouchers: give them a chance

Sir—In reply to Mr Hayes's attack ("No time for vouchers" March 12) on the intention of the Kent Education Committee to spend £10,000 on the educational voucher experiment in Ashford, we should like to record on behalf of our members, teaching in a wide variety of educational institutions in this county, that at our branch meeting last week a majority of members were in favour of this feasibility study.

We recognize that such a system is as yet untried, and that there may be certain difficulties to surmount, though the prospect of a declining school population seems to offer opportunities for experiment and flexibility.

As for the basic principle of the educational voucher, it seems as reasonable to us that as many parents as possible be enabled to pay for their children's education, should be offered schooling as that they should have.

ELLIS LEES, Branch secretary, Assistant Masters Association.

How SEA came to Hackney

Sir—We were unpleasantly surprised at the way in which the Hackney branch of the Socialist Educational Association was mentioned in your article on the SEA in Newham (March 12). We read that you were one of the branches which "have sprung up unexpectedly" and "Only this in the last few months". This has apparently led to "allegations", naturally of Trotskyite machinations.

Since when did members of the Labour Party involved in education need the help of the SEA? Why set up a branch of the SEA? Why unexpectedly? Who has made these "allegations" about Hackney?

Isn't a period of educational cuts, the apparent phasing out of supply teachers for staff absence and a continuing decline in the quality of education in our inner city schools, precisely the time to set up a branch of the SEA in a place like Hackney?

Last year, at the conference of the National Union of Teachers, a group of Hackney teachers, members of the Labour Party, held a public meeting. Response to the idea that Labour Party members should organize to tackle educational issues was keen, and follow-up meetings were held in London with Labour Party members of the NUT executive. Sidney Lubin, of the SEA, attended one of these meetings and told us about his organization.

We agreed it would be silly to set up a rival organization for Labour Party teachers, and a number of us joined as individual SEA members that night. Subsequently, those of us from Hackney met with

other interested teachers in the area, and a local committee, formed these Hackney branches. Linda Lubin, of the SEA, visited our inaugural meeting and recommended we be approved as a new branch. We were.

We have been concerned for years at the neglect of education in the area, and the SEA in London and the Labour Party. We hope to provide a forum for such discussion and how to involve parents, and the community fully in the running of the school and are hoping to organize a meeting for Hackney governors and teachers later this year.

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Inspiration—and graveyard

Sir—Since my views have been referred to in your two-page spread on the probationary year (February 27), I would like to comment.

The article to which your contributors referred did indeed deal with classroom survival, but it had been extracted from my book *Beyond Control*, which also tackles at some length the question of staff-room survival. While reluctant to underestimate the power of repressive heads or cynical colleagues, I think the source of—and therefore the solution to—many staffroom difficulties is more complex than your contributors suggest. At least some teacher frustrations are the result of the probationer's own inexperience, and some setbacks can be avoided through patience and tact.

More generally, I was surprised to find how small a proportion of your spread dealt with the labour of children in school. A comment on the labour of children in school might have been a welcome addition to the book.

Under the doctrine of probationary teachers are not waged between hoary professional and idealistic educationists. That is of course, numbered among the showstoppers. The central issue is surely the children's education, and we do to each other. Children are the inspiration and the graveyard of any educationist. We must look to the children, not to the probationary year.

PAUL FRANCIS, 20 Ryknield Road, Kilburn, Derbyshire.

Exam fees will cost £9,000

The cost of public examinations of pupils at this school next year will be almost £9,000. We have 350 pupils in form V and 100 in the upper sixth. Care has been taken to ensure that all fees are justified by the efforts on the teaching of foreign languages by pupils concerned (otherwise we pay their own fees) and on the teaching of foreign languages by pupils concerned (otherwise we pay their own fees) and on the teaching of foreign languages by pupils concerned (otherwise we pay their own fees).

£3,105 for 10 level candidates
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The average cost of examining 330 fifth-formers is therefore £26.33. In contrast, the average allowance for pupils in the UK is £15 per year.

I am not in a good position to say whether the cost of examining young people who have not been to school is a fair basis for the examinations, and for the level of CSE grade 4.

The only financial restrictions on my school are on the salaries of the teachers and on the cost of their teaching materials and equipment of all kinds. CSE is a much more expensive examination than GCE; if all our fifth-formers had been GCE, the difference would have been 70 per cent.

The proposed common system of examining at 16-plus cannot conceivably cost less than the present arrangements and the introduction of a new system will cost a great deal more.

It is nonsense to expand further resources when we are so short in other ways. We are so short in other ways. We are so short in other ways.

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Memo to all schools: teach them to communicate

Sir—Philip Venning's article about Gateway (February 27) spells hope for school leavers and employers but the proposed short courses bridging the gap from classroom to shop floor are limited in range. One subject common to all wage earners has been missed from the list possibly because it is never considered a subject—business communications.

Ask any manager how many juniors can compose a memo, a letter or a report in clear, concise and unambiguous terms that give the how-when-where and who under discussion.

Few; and five years lecturing to O and A level students at technical colleges, helping them to communicate, and managing the essay and the sprawling word-play they in-

duced in unequalled paragraphs. I have shown me why they find it difficult to master the technique. They cannot shake off the shackles of some 12 years of essay writing.

Essays enlarge the imagination and assess the powers of expression among pupils, but they also encourage purple passages and long sentences, polysyllables, verbal nouns, the non-climactic passive voice and writing numbers in words instead of figures.

My task is like that of a sports coach who has to break down ingrained but incorrect reaction of muscle and mind before imposing a new and correct behaviour pattern with club, bat or racket.

I have to eradicate the shortcomings of the essay and cleanse their minds of the sprawling word-play they in-

duced in at school, and train them to write sparingly.

Few firms have the time or personnel to teach embryo clerks, managers and foremen the brisk, succinct, economic wording of commercial communications. The offerings laid in the in-ways of busy men are often candy-floss and circumlocutions. This could be overcome if sixth-formers received tuition on business writing to orientate their thinking to the taut, simple vocabulary of industry. "I'm writing you a long letter", says the epigram, "as I haven't time to write a short one."

Day-release, sandwich schemes train a selected few but in a business house everybody has to communicate, and management rides on a raft of paper.

I realize that Philip Venning is

mainly examining the Gateway idea, but his work has provided the terrain for me to gallop my hobby-horse: and from that same stable I can trot out another nag. Let the school leavers be given talks on human nature; how to develop their personalities and how to sell an idea to people. Degrees, an HND, and other qualifications will help to land a job but they do not equip a young man or maid to get on well with fellow workers in firm or factory. It is significant that out of the many talks I have given to schools, the most popular one has been "How To Develop Your Personality".

NOEL SCOTT, Lecturer in Communications, Birmingham College of Food and Domestic Arts.

Welcome to reality, professor

Sir—How delightful it is to read that Harry Rée has been having discipline problems at his London comprehensive school, where he has been teaching French to mixed ability classes. He complains, it is reported, that the children had no interest, did not want to learn, but he is now happier teaching German to groups which are in effect volunteers and so are keener.

Constitution of the French to should not be a compulsory subject.

Well, well! Here we have a former grammar school head (whose pupils were, after all, volunteers), former professor of education (whose students were all volunteers) who has suddenly discovered what went wrong with his French classes in secondary modern schools have always known, that idealism without experience is largely irrelevant.

I am in favour of comprehensive schools in principle—it is years now since I wrote in the TES the now famous article about the one type of school, when the comprehensive argument was only just beginning—but Professor Rée and his situation seem to bear out Sir Alec Clegg's comment of some time ago on progressive primary education: "The resources devoted to the teaching of French in secondary schools are largely irrelevant."

Is Harry Rée's conclusion the logical one, and does not this also mean that only volunteers should learn English, or science, or mathematics since in this way one can teach languages effectively.

It is a distortion to claim that if language teachers do not teach the whole ability range, then they are throwing an unfair burden on someone else. If these pupils of lower ability are able to learn and benefit from other subjects, then this is perfectly natural.

Mr Horsley sees language teachers who teach only able pupils as "privileged". I would point out that many such teachers of minority subjects, though well qualified and experienced, cannot aspire to the higher salary scales. As a teacher of German with responsibility for the subject on Scale 2 after 10 years' teaching experience I feel myself decidedly underprivileged.

JAMES A. SHAW, South Park Sixth Form College, Middlesbrough.

Selection statistics still stand

Sir—In "Ways of Seeing" (March 12), Tony Travers has modified published DES statistics in an attempt to invalidate the Baldwin 1975 analysis. Unfortunately, his adjustments are invalid because no allowance has been made for the significant differences in the age distributions of leavers from the various sectors of the secondary school system.

The first major "error" attributed to the Baldwin analysis was pure semantics. R. W. Baldwin compared the achievements of the comprehensive sector with those of the then unorganized schools. Both sectors exist both are real, but one obviously drew conclusions with some care from such a comparison—which he undoubtedly did.

The second "error" was said to be due to the apparent growth (23 per cent to 26 per cent) in the proportion of "unorganized" children in grammar schools. This claim was based on an analysis of leavers, with no regard for changes in leaving ages over the period.

There was a large increase in the average leaving age of secondary modern school children relative to that of the grammar schools. This gives the erroneous impression of an increasing grammar school component. In fact, the proportion of 13-year-olds in grammar schools remained at about the 23 per cent level over the period.

However, even if there were an increasing proportion of grammar school children, it is statistically invalid to reallocate blocks of examination successes, as Mr

Travers did, and to then operate on "percentage of all leavers" with no regard for the age distributions of leavers. These age distributions vary significantly between grammar schools and comprehensive schools.

The third "error" was attributed to the effects of creaming. I doubt if a reasonable hypothesis exists (both as to extent and accuracy of creaming) which would stand up to a comparison with the realities of the situation and at the same time account fully for the differences in achievement. For example, how can one explain away a 3:1 ratio of Oxbridge awards in favour of the unorganized sector?

The fourth "error" relates to the inability of 25 per cent of comprehensive schools to offer tuition beyond age of 16 (and I thought that wider, better and more opportunities for all was the clarion call of the post-comprehensive camp). This should not affect O level achievements, and of course sixth-form colleges' A and O levels are included in the comprehensive statistics. One is left with A and O levels achieved by further education colleges, but there is no way of allocating these between the comprehensive and unorganized sectors.

A more promising line of investigation for Mr Travers might be an analysis of the trend in examination results in local education authorities where an identifiable part has gone comprehensive (e.g. Buckinghamshire and Somerset).

A. SPEDDING, Alton, Copperkings Lane, Amersham.

Choir going comprehensive

Sir—Professor J. B. Mays (February 5) and others who fear the demise of our cathedral choir schools may receive welcome encouragement from the knowledge that, here at Peterborough, from September next, the choir school will be an integral part of a flourishing cathedral, comprehensive, coeducational school.

I share your correspondent's apprehension, however, about the 30-odd other such foundations in the country—and, like him, I suggest that public money alone can prevent the inevitable closure of choir schools, thereby impoverishing the nation's total artistic heritage. If other minority interests can claim and receive public subsidy, why cannot this superbly educational endeavour?

D. C. JOHNSTON, 245 Eastfield Road, Peterborough.

Safety second?

Sir—Mr A. Wilson (March 5) referred to the new Health and Safety at Work Act, which teachers of practical subjects in schools now have to study and apply. Mr Wilson also referred to the guidelines laid down in the DES booklet on safety in science laboratories, *Safety Series No. 2*, which is published by HMSO. Having been advised by our local inspector to obtain a copy, I telephoned HMSO, only to be told that the booklet was out of print and would not be reprinted. A curious time for this to be decided!

B. SHIBLEY, St Mary's High School, Craydon.

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regular monthly meetings, but these are continued overlea

continued from previous page

most likely to be concerned with 'practical' matters. A regular educational forum is lacking. Or is it better to set up a special study group or working party consisting of teachers from all levels of the hierarchy?

And what then? Some teachers are tape-recording their lessons or collecting their pupils' writing as material for a study group on language. Even so, it is not always easy to sustain interest and a sense of purpose. I'm not convinced that by these means I'm actually achieving anything. I'm just about keeping it alive, I'm not sure I'm actually going anywhere" says the leader of a language study group in a comprehensive school. There are often other apparently more pressing concerns—marking, examinations, arrangements for next year's courses.

Perhaps the only good thing to be said for those local authorities who require all schools to send them a statement of their language policy is that it may provide a temporary sense of urgency and purpose to discussions. Yet the inherent danger may outweigh the benefit, not merely because the result may be a finished document which has little to do with classroom practice, but because, even more dangerous, it may have a lot to do with classroom practice, like "All teachers should make a point of correcting all punctuation and spelling errors in written work", concentrating on surface features at the expense of the more fundamental learning issues.

Where schools already have established networks of communication between subjects at a practical level, say in integrated studies courses, that may well be the best place to start. Practice and theory can be firmly linked, so that what happens in the classroom can feed into the discussions on language—which can feed back into practice in the classroom.

Any school which has a language policy document embodying issues raised in Bullock—and which it can honestly claim reflects with a fair degree of accuracy what is happening in the school—must have been working on it since long before the publication of *A Language for Life*.

Why is it so slow and difficult an operation? The answer seems to lie in the different kind of demand that Bullock's recommendation about language policies makes on teachers. It is asking something quite new and difficult.

It is new because Government reports in the past have asked teachers to make changes in what they do in their classrooms as individuals—and this, of course, is also true for much of the advice in the report. But its recommendation that "each school should have an organized policy for language across the curriculum establishing every teacher's involvement" asks teachers to decide collectively about language matters.

It is difficult because staff are not generally accustomed to taking policy decisions which affect individual classroom procedures. It is particularly difficult in secondary schools because they are organized in autonomous subject departments. The ethos of this subject specialist system—you mind your business and I'll mind mine—makes it improper for one specialist to suggest what another specialist should do in his or her lessons.

This, of course, goes for language too—which is seen as the province of the English department. Thus (the argument goes), if English teachers did their job properly, other teachers could concentrate on teaching their subjects. This obviously does not work as subject specialists regard the written work their pupils do in history, geography or science as their responsibility. The Bullock Report is widely regarded as a report about English teaching, and there is little conviction that there is anything in all this that really concerns them or their subject responsibilities.

What is at issue here is a means-ends debate. The report (in spite of the chapter on language and learning) treats language as an end, as do many English and remedial teachers. Most subject teachers see it as an end for English teachers, but not for themselves. Hence a great deal of confusion. What needs to be understood is the paradoxical fact that language cannot be developed as an end. It needs to be learnt on the job, so the best way

of developing it is to see it as a means of learning rather than an end in itself.

What is now beginning to happen is that teachers are drawing out in discussion their own and other teachers' purposes, and practices, and examining them together. When this happens among colleagues in the same institution, and for an exploratory rather than for an immediately didactic purpose, the potential for change is of a new order.

A group of science teachers, for instance, recognized the value of talk between children in promoting independent thinking. It had not occurred to them that any form of writing the children might do might serve the same purpose, until this was suggested by a teacher from another subject. In effect, the request for language policies cannot be met without teachers examining their ideas about learning. No wonder it is a slow and difficult process.

Furthermore, the problem of specialist boundaries within schools is paralleled in the hierarchies of the education system. English advisers and inspectors responsible for English meet to plan what can be done to implement Bullock. Other subject advisers may meet for this purpose, but it hasn't been noticeable.

If one looks at the structure of education to see what people in it lie outside the subject boundaries and might therefore be to some extent free of their constraints, it appears that heads of schools, and senior staff with general commitments such as curriculum coordinators or directors of studies, could play a crucial part in raising the matter with heads of subject departments. The irony is that until heads of departments (other than English) take the matter seriously the confusion will persist.

If subject associations could be persuaded to put language on the agenda of their meetings, this might be the most generally effective way of getting department heads interested. There are some beginnings. The Association of Science Education have just held a conference for science tutors in university departments and education colleges and science advisers, with the "place of language" as an item on the agenda. The Association for Teaching Mathematics have consistently emphasized the importance of language.

There is one school we know which has an active and agreed policy for language. We think it is significant that this policy is only part of its more general educational objectives.

We were given a "statement of intent" which set down in three pages the objectives of the school, and the agencies by which those objectives might be carried out. This statement had been produced from many discussions between the head and "teaching staff who were to be the nucleus of a larger and changing staff of the new middle school". A rider was added that if any teacher was unable to accept the underlying educational philosophy of the statement, they should discuss this with the head so that "an acceptable solution to the dilemma" could be found.

Accompanying this statement was a document headed "The Language Policy of a School", plus a videotape of a mixed ability class aged 12 to 13, recorded over three days and covering all lessons including drama, physical education, craft, and library, and occasions such as assembly, school dinner and playtime. The language policy document is meant to be seen as part of the school's objectives, and contains 11 aims. The first sentence reads: "We hope that the videotape recording will illustrate as many of the following points as possible."

Clearly such a way of producing a 'visual' language policy involved all the staff, 'disposed of the notorious gap between statements of objectives and actual practice, opened all that was going on to public discussion, and located the language policy firmly in the more general aims of the school.'

Nancy Martin, Bryan Newton and Pat D'Arcy are members of the Schools Council/Institute of Education, Writing Across the Curriculum Project. "Language Policies: Approaches and Problems" (Pack 9) is to be published by the project at the end of the month, and is obtainable from the Project Secretary, London Institute of Education, Malet Street, London WC1.

A week in the life of a language policy

Gerald Haigh

Monday

Arriving at school in a decisive mood, I wrote on my "things to do" pad:

- 1—See the caretaker again about that funny sticky stuff behind the radiator in room three.
- 2—Remove the outdated notices from the board in the corridor.
- 3—Institute a language policy across the curriculum.

During the afternoon Marston, my deputy, came to see me—not a common event this, since the day he stumbled across a copy of the last reference I wrote for him. He wanted to know, on behalf of the staff, what I meant by a language policy. If it means a crackdown on swearing, they are on my side. I told him that the working out of the details were up to him, and that he should have a paper ready for me when I return from the local heads' luncheon.

Worrying conversation at the lunch. Apparently integrated studies are now out. Wilkinson at St Barnaby's had some

unpleasantness with an inspector. The matter only last week. That Redman, who has been a new integrated curriculum in middle school, will have been in time unless we can pass off as a Mode 3 home economist. Made a note to search the book for those purple history books out in 1967.

Tuesday

Read Marston's paper on the policy. It consists of various symbols to be used by teachers marking.

For example, a wrong word by "EGs" ("erroneous grammar" or "erroneous spelling"). A spelling error by "YSch" ("yuck school"). I was not sure that one. Only last week at Rotary the child constable had the nerve to ask after my vectors.

Johnson is not taking to the language policy. Several of his pupils are citing Bullock as evidence that they are allowed to talk in class, and he is now asking

Wednesday

Another parent to see me about mathematics. I explained for the hundredth time this term that five fours are not six and six is six and not 10. She stared at me, as, indeed, do they

Not a day passes when I do not curse the city of Southampton and its educational mathematics project. How I long to be influenced by Wilkin's adoption of the scheme. One thing is quite certain, I shall never have another parents' evening to explain modern mathematics. I wish for no repetition of the embarrassment I felt when the police had to be called to the school. Only last week at Rotary the child constable had the nerve to ask after my vectors.

Johnson is not taking to the language policy. Several of his pupils are citing Bullock as evidence that they are allowed to talk in class, and he is now asking

Failure being brandished before them as an extrinsic motivation.

This, then, is one of the elements in the notion of "continuing education"—a wish to arrange the experience of learning which is offered to people of all ages, in temporal packages which suit their inclinations, their vocational needs and their social circumstances, in order that more people may benefit from education, and that opportunity may be shared more equally.

To the promise of more efficiency and more equality of opportunity is added the rest of the social expectations which make education permanent or recurrent education one of the most influential of current ideas about education in Europe. The complexity of modern industrial life is going to require people to learn new skills and up-date old ones throughout their working lives—a requirement for adaptability which will colour the rest of education. Shorter working hours and a declining work force in manufacturing industry will be reflected in more people pursuing adult education and retraining.

Some exponents of education permanent have seen education as being linked much more closely to vocational needs, and offered in modular sections to be slotted together as a career develops. Others would like to use the expectation of more opportunities later on deliberately to discourage students from protracting their studies end-on to school. The traditional arguments about the value of a break between school and university are reinforced by a belief that a spell of employment might concentrate students' minds on a useful subject of study, and relate it more closely to the rest of their lives. Unless a break became normal, it would be difficult to break down the social expectation that good education are those who accept their education as something pre-packed and available to be consumed before a stipulated date.

Education is not the only source of rigidity in these matters. The mildest of the exponents of education permanent would demand radical changes in industrial training and the custom and practice of each custom, and each practice having its own price tag in any negotiation between management and unions—of count-bogus pedagogic justification.

Continuing education, recurrent education, education permanent—in spite of the failure of liberals in Britain to recognize them as such, these are alternative names for a powerful package of ideas which will, in the course of time, be as effective a solvent of the established order of post-secondary education as the idea of the comprehensive secondary school has been at a lower level. This, of course, is not the same thing as saying

me to define the boundary between insolent and non-insolent talking. How difficult it all is! In my day, all talking was impertinence; all argument rebellion. And we were all literate, to boot!

Thursday

Randwell is being evasive about the skiing trip money. If he is not in school tomorrow I shall have the airports watched. I have not forgotten the unlamented Despart and his secondhand bookstall.

Parents are beginning to complain about the language policy. Mrs Flotbury wanted to know why her daughter is being taught by a tape-recorder and a pair of earphones. "I pay my rates and I demand a proper teacher," she said. I could hardly tell her that the tape machine probably does a better job than old Johnson ever did. At least if she abuses it, it may do her an electrical mischief, something for which Amanda Flotbury has long been asking.

I have still not found the purple history books. They are immediately recognizable, having a picture of Alfred burning the cakes on the cover.

Preliminary visit this afternoon by the teaching practice students from the college of education. The usual dismal looking bunch including, as always, one with frizzy hair who said he had a conscientious objection to the BBC's *Time and Tide* programme. I shall put him with 423 in the temporary classroom. One of the young ladies is bringing in a lot of old razor-blades with which to do flute-carving with the third-form boys. I must look out those insurance regulations again.

Friday

The language policy, alas, has fallen into desuetude. I regret now that I did not give a firm lead, but the distractions this week have been legion, culminating this morning in the discovery that on the

iciest morning of the year we have run out of grit for the car park.

In the end I was forced to borrow some from Wilkinson who, clearly, has friends in the county supply department. I have never seen his stationery stockroom, for rumour has it that it is an Aladdin's cave of theoretically unobtainable items. The piano tuner tells me that his school dinners are better than ours, too; certainly whenever I see his dinner supervisor in the town she always smirks at me in a disagreeable way and asks if the potato lorry has called yet.

Applications for Mrs Mortensen's job are beginning to arrive. I shall make up a short-list from the more legible ones. One is apparently written in Chubb-stump crayon on the back of an Underground ticket and another is covered in what looks like congealed mushroom soup. There are times—increasingly common as the years go by—when my colleagues fill me with loathing.

The sticky stuff is still there. I have not yet found the purple history books.

Gerald Haigh is deputy head of Canon Maggs Middle School, Bedworth, Warwickshire.

Along the permanent way

Stuart Maclure suggests that 'continuing education' could have as dramatic an effect on post-secondary education as the comprehensive idea has had at the lower level

When, last summer, the Open University sponsored a conference on "Access to Continuing Education", what they were trying to do was to challenge the whole notion that there is some heaven ordained law which says that education must be acquired on a linear basis between the ages of five (or three) and 22, and that there is something eccentric, depraved, deprived, lazy, rebellious, or otherwise socially disreputable about acquiring knowledge and skill in different packages, spread over different times and interspersed with other socially useful or useless activities.

This challenge to the conventional, front-loaded educational bandwagon draws on many of the current liberal nostrums. It is apparent that early selection is likely to favour children who start off with social advantages: critical educational choices at seven, nine, 11 or 13 take place within a social framework which makes a high status education the normal expectation of children from high-status families and low-status education the normal expectation of their less-favoured neighbours.

"Sponsorship"—the early identification of bright children and their projection through the educational process as superior students in superior schools (or streams)—is accompanied by what amounts to the rejection of the mass of the children as stupid, and their dispatch to inferior schools (or streams).

Much of the criticism, therefore, concentrates on the issue of social justice: the "sponsored" children are more likely to be middle-class, the system comes under attack because it favours the wealthy and penalizes the poor.

It is also open to criticism, however, grounds of elementary "efficiency". "Sponsorship" puts a premium on early identification of certain qualities and, per contra, the early selection of the lack of this ability also. The extent to which this is a spurious criterion is wasteful. At a certain stage of development, the advantages of sponsorship may outweigh the disadvantages, when this stage has passed is a development cycle of an industrial nature, place artificial importance on the educational hurdles at set times in childhood and early adolescence, is a limiting access to an educational system and giving this limited recognition a bogus pedagogic justification.

If there is no need to accumulate according to this strict timetable, an open society becomes possible and a talent can emerge. And the key may be to promote the idea that education can simply "continue", dropping out when they find it unhelpful and congenial and necessary, without fear of the



Silversmith at Goldsmiths': learning new skills or updating old ones has become part of the argument for continuing education.

that the critique it represents is a fair or adequate one—simply that it is powerful and that the half-truths and simplifications and exaggerations it embraces will be effective in the long run in changing the framework within which policy is discussed.

But not yet. Because the present arrangements have a basic strength which romantic egalitarians are unlikely to shift. The pattern of initial education lasting from 10 to 17 or even 20 years open access continuing education, would be well established throughout the western world, not because some fascist elitist decided that this was the best way to keep the peasants in their place, but because it has functional advantages. Similarly, "sponsorship" on the old 11-plus model, or through restricted access to elite lycées, may give way to a more open system of secondary education, but the "sponsorship" which comes when a gifted teacher finds an avid pupil will continue—and ought to continue, because continuity in learning is functional and not something arbitrarily imposed by rigorists.

As for the egalitarian arguments, there remains the awkward and insistent evidence from experience, that those who take most advantage of opportunities for continuing education are those who enjoyed a more than average ration of initial education—the over-familiar

phenomenon of appetite which grows with feeding. A social sea-change will be needed before dropping in and dropping out becomes a matter of choice unrelated to academic aptitude or peer-group expectation.

As things stand now, and for many years to come, those who make the most of their chances for recurrent education and retraining will be those who took their chances at school, too. The first effect of any large-scale development of open access continuing education, would be to help them, as the Open University has already helped them.

Translated into social class stereotypes, this means that, just as the comprehensive school is likely to enable society to reproduce itself more effectively (social distinctions and all) and is thus particularly attractive to middle-class families with borderline children, so, too, for many years to come, more continuing education will be more of an asset to the middle classes than to anybody else.

In particular, the hope which some adult educators are tempted to clutch at—that the notion of continuing education might be presented as justification for a wholesale change of priorities, enabling them to get their hands on some of the gold now devoted to the rest of the system—is likely to prove vain, for the simple reason that, by comparison with

other nations of similar character, our systems of initial education are, themselves, inadequate. Continuing education—for reasons already touched on—is, paradoxically enough, most likely to flourish in countries which have more, not less, secondary and tertiary education. And while the Swedes and the French talk most about it, it is the Americans and the Canadians, with the most highly developed and elaborated conventional systems which also have the most continuing and recurrent education.

We come back to the familiar truth that there is no secret or sudden panacea, labelled "continuing education", no scope for a dramatic shift of priorities, no pot of gold to raid, no constant remedy for the class system. Continuing education becomes, not an alternative to the interlocking phases of initial education, but a complement to them; in need of special emphasis—because the potential gain from development here may be greater than in some other sector—but not at the expense of the maintenance of a balanced education service, with inescapable statutory responsibilities to the five-to-16 age group, nor yet as an exercise in barely concealed hostility towards the traditional universities.

This is an extract from a talk given last month to the annual general meeting of the Institution of Electrical Engineers.

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Development group work with adolescents. By Leslie Button. University of London Press. £3.95. 0 340 17630 X. Paperback £2.10. 0 340 17631 8.

Mind (22 Harley Street, London W1N 2BD. Telephone: 01-637 0741), the National Association for Mental Health, is a charity which not only cares for, informs and advises all concerned with the mentally ill or handicapped, but works actively on their behalf. The first three books above launch their excellent "Mind Specials" series, and all are well and profusely illustrated with ample bibliographies.

Charles Hannam admits that the tape-recorded interviews which are the core of his book are a small and largely middle-class sample, and he does not claim to have mounted a full-scale research project. But, being deeply involved as the father of a mongol child, the problems and

griefs of such relationships are very clearly presented and the advice is truly practical, including a list of supportive organizations.

In *Depression* Dr Mitchell emphasizes the life and reason-saving work of the Samaritans and discusses very succinctly and helpfully the risks, types and treatments of most forms of depression. This book and *Adolescent Disturbance and Breakdown* are recommended background reading for guidance teachers, especially those who have forgotten (if they didn't cut) their educational psychology lectures. The chapter "Mental Development" in *Adolescence* is of real help in fixing what is "normal" for those vital years as a standard by which to assess potential disturbances.

At £2.55 for the three, Pelicans have surely provided a bargain offer. And with *The Wincroft Youth Project*—the latest of their social science paperbacks—Tavistock Publications also offer excellent and interesting value for money. The book was inspired by the lack of urgency and focus for people with problems of young people with problems.

In 1968, the Seeborn Committee sadly admitted inability "to give adequate attention to the organization of social services for young people, and for that reason" made their specific recommendations for their reorganization. The Project aimed, during its 44 year life, to help a group of delinquent and/or inadequate and maladjusted

boys to stay out of trouble, "grow up" and grow into a life that they could live with hope for.

On balance, the project seems to have succeeded. The authors claim that the project was "particularly suited for use by the family and by students of all kinds". Such a claim is valid.

Many of the maps in the *Concise Atlas* are recombinations on a smaller scale of those appearing in the larger work and, whereas the gazetteer index contains some 200,000 entries in the comprehensive edition, there are but 90,000 in the *Concise Atlas*. These are, however, sufficient for most users and it would be a mistake to regard the one as a scaled down version of the other, for there is much alternative material, especially in the preliminary sections, and the atlases are essentially different. In current publications, the introductory passages to an atlas are often a major element in its design and promotion and, although once described as "colour photography and other unnecessary data better fitted to a picture magazine than to an atlas", they are a valuable source of geographical, scientific and often astronomical information. Both from an educational and from an interest point of view they have become important in their own right but unfortunately have not yet reached the proportions whereby an atlas can be commended for its preliminary sections rather than for its small

The publication by The Times of new or updated atlases is always an important cartographic event for the name that it bears is a synonym for the highest of standards. The two new atlases to appear from the Times stable both have well established pedigrees dating back to 1895 when *The Times Atlas of the World* was first published. The *Times Survey Atlas of the World* appeared in 1922 wearing the colours of the house of John Bartholomew and Son; originally it appeared as a sheet form, it later the five-volume mid-century edition which was completed in 1958 and which in turn gave birth in 1967 to the comprehensive edition. The present publication is the fifth revision of this great tome which, as one would expect, has been painstakingly brought up to date. The *Concise Atlas* draws much

Europe, and unlike the attempt at tracing may take years, and is no more than six years of age. As a result there are 200,000 children in care in France at any one time, while couples wait years to adopt, if they are lucky enough ever to do so.

In Germany, babies are considered unadoptable if they are of "mixed race"—that is, the offspring of foreign workers, of whatever nationality.

Mary Kathleen Benet's comprehensive account of adoption past and present describes these laws and practices, and the Roman law heritage and historical attitudes which have led to them, with objectivity, compassion for their victims, and consistent good sense. It pinpoints the weakest spots in national adoption policies, and makes short work of the assumptions and rationalizations which hinder reform.

Miss Benet deals with adoption practices in the United States and Asia as thoroughly as with those of

Spain—then and now

Hugh Whittaker

Spain: A Companion to Spanish Studies. Edited by P. R. Russell. Methuen 24.95. 416 84110 4.
The Army of Planners and the Spanish Road. By Geoffrey Parker. Cambridge University Press £2.25. 521 0607 2.

This three-year-old reappears in paperback in a publishing bid to bring two expensive books into the paperback section of the shelves. The Companion is a new version of E. Allison Fox's 1929 compilation; the editor, while admitting his debt to the master, has kept little more than

The 12 contributors, British (except one) to a man, and major Hispanists all, cover Spanish literature and learning in impressive depth. The energetic philological chapter presents four historical sections—Roman, medieval, Hapsburg and

modern. Literature is treated historically, five sections of which Russell's contribution on the Golden Age rightly rates the lion's share, one-fifth of the book, which ends with two chapters on art (architecture, painting and sculpture) and music.

The danger of the guidebook center is that contributors, while striving for concision, still want to say everything. Occasionally this is too ambitious and leads to a lapse of the professional style; for instance, on poor old Ferdinand VII, "cultural life within the country hit rock-bottom".

There are, inevitably, omissions and these are acknowledged by the editor. He must have personally regretted chopping Portugal, whose presence is fleetingly medieval; the Catalunians outgunned him. I regret the absence of post-emancipation Latin-American history, and the brevity of the peninsular history section on Franco's Spain, which is

surely worth more than two pages. But this is a mighty work for sixth-formers, undergraduates and general Hispanophiles. In the spirit of its parent. The next is due in 2017.

There are many links, principally J. H. Elliott, between the Companion and Dr Parker's slimmer monograph on the 80 Years' war begun by Philip II after the Dutch UDI of 1567. This is a specialist work of history, drawing exclusively on an awesome range of primary sources. I found it immensely informative and entertaining. Dr Parker's style is lucid and occasionally racy, while his approach to war-waging is in the Annales/Braudel realization of total history—recruitment, victualling, travel, camp-following, mutiny and demob. But there is little, except an interesting digression on the nature of the picaresque and a few references to seventeenth-century literary works, for the student of Spanish.

Success in COMMERCE

DERBY LOBBY

25 Books/Geography

Charting the wide world

P. F. Dale reviews three atlases

The Times Atlas of the World comprehensive edition. The Times Books in collaboration with John Bartholomew and Son Ltd. 0 7230 0138 3.
The Times Concise Atlas of the World. The Times Books £12.50. 0 7230 0140 5.
The New Oxford Atlas. The Oxford University Press £16.75. 0 19 891108 4.

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of its material from the comprehensive edition but, whereas the latter is primarily a work for the office or library, the former is claimed to be "particularly suited for use by the family and by students of all kinds". Such a claim is valid.

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scale topographic maps. An Atlas, after all, is primarily a vehicle for showing where things are and as such *The Times* has achieved for its atlases an international reputation which will be confirmed by these latest editions.

Nonetheless, some reservations must be expressed regarding the comprehensive edition as the dark tone of blue used to indicate coast and lake lines and rivers affects the legibility of the typography making it difficult to read many of the place names. The fault is easily remedied on reprinting and has been avoided in the *Concise Atlas* where there is much greater clarity.

The New Oxford Atlas is traditional in that it uses maps to communicate all physical, economic and social information and makes use of glossy techniques and non-cartographic art work. In effect it is a new edition of *The Oxford Atlas* which was first published in 1951 and retains many of the original features, though suitably revised and updated. There is also some additional material including thematic maps, most of which have already appeared in other atlases from Oxford. As with *The Oxford World Atlas*, *The New Oxford Atlas* is one for quiet study and reflection rather than instant appraisal but, unlike its stable companion, it gives more uniform cover and refrains from giving greater emphasis to those areas which are of particular geographical significance. It is to be commended for the young geographer.

Spain—then and now

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DERBY LOBBY

A massive study

B. S. Roberson

Regional concept: the Anglo-American leaders. By Robert E. Dickinson. Routledge and Kegan Paul £8.95. 7100 8272 X.

As the mainstream of geographical ideas in this country is written in English if not in England, this volume on the work of the Anglo-American leaders will be of greater interest than its companion, *The Makers of Modern Geography*. Its publication completes an important pair.

At first sight it is a reference book for those concerned with the comparatively recent origins of our subject. Its wider message, which can only emerge after careful perusal, is of the paramountcy of the regional concept, and its substantial story and documentation presents a massive stumbling block to opponents.

Much of it is skilfully compiled, but it is often difficult to distinguish between the author's own words and his quotations; at times reference must be made to the original sources to be certain. But from this weakness arises a strength. The quotations are so aptly chosen and assimilated that the book reads smoothly and continuously. On any criterion it is a massive and masterly work.

The main content consists of short descriptions and appraisals of the work of the leading geographers in the United Kingdom and America during the last hundred years. Dickinson is a good selector of

inter-continental geographers; the British openers are Geddes and Mackinder, with Herbertson next. Fleurbaey and Roxby are given as the "second generation", with Stamp and Darby as the third. The others mentioned are worthy of this company.

It is significant that chapter two, entitled "Post-War Trends", is printed without comment. Instead there are carefully representative selections of work by Chorley and Haggett, Stoddart, and Chisholm, and a contribution by Brown. "Frontiers" incidentally, was published in 1965 not 1963, and it was not until the latter date that the modern movement got under way.

The American section opens with such leaders as W. M. Davis, Jefferson, Brigham and Russell Smith. Semple and Huntington got a chapter each, as does Carl Sauer.

The chapter on post war trends in America touches lightly on the quantitative revolution, Berry having an honourable mention but no substantial quote. Professor Dickinson's own summary of the situation is worth noting: "that in Britain the new expertise in undergraduate and graduate training is geared to, and adds to, the substance of geographical training... in some American universities geographical training is, indeed, so 'new' that it is completely divorced from what is called the 'traditional geography'."

Only one can hope this is true. Much integration of old and new remains to be done, certainly at the work of the leading geographers in the United Kingdom and America during the last hundred years. Dickinson is a good selector of

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BBC PUBLICATIONS

28 Resources

Nutrients: purposes, precautions and preservation

by Sharon Mansell

Overhead Projector Transparencies for Home Economics. The nutrients and their purposes £5.20. Carbohydrates £5.20. Oils and fats (Lipids) £5.20. Proteins £5.20. Vitamins £3.00. Minerals £3.00. Water £5.20. Energy values of common foods £4.20. Daily requirements of nutrients, parts 1 and 2, £6.40 each part. Precautions when handling food £5.20. Bacteria growth and food preservation £3.00.

The price varies with the number of overlays present. Available from ITL Vufolls Ltd, 109-123 Clifton Street, London EC2H 2LR. Reference numbers HC 001-012. Also Griffin and George Ltd, 265 Ealing Road, Wembley, Middlesex HA1 1HJ. Reference numbers L09-370/005 to 060.

Griffin-ITL Vufolls have produced a set of 12 overhead transparency units on food and nutrition for home economics. They are designed to introduce the concept of the functions of food in the body and the value of a balanced diet. Detailed information about the role of particular nutrients in the body and daily requirements is also included. Two frames include information about the safe handling of food and food preservation, and brief lecture notes accompany each frame.

The transparencies are supplied in a stout, resealable plastic envelope. The mount is sturdy plastic and there is a thick, plain acetate sheet as the outer layer. This is useful, as it not only provides protection but can be used by the teacher to add additional detail when required.

The Nutrients and Their Purposes summarizes the facts briefly and gives examples of some foods supplying useful sources of nutrients. It also attempts to show how foods may fulfil more than one

role in the body. The lecture notes provide superficial information of little value to a specialist home economics teacher. This unit is of limited use with secondary age pupils.

The units on carbohydrates, lipids and proteins show facts on a basic foil with a build-up of information by overlays. In general, too much data of too little depth has been selected. The different percentages of each nutrient in a few selected foods are shown, but these are not easily related to the more practical consideration of how much of a particular food will supply a proportion of the daily recommended intake. The source of reference for the figures quoted is omitted.

The notes for carbohydrates require some revision—it is not true that "when carbohydrates are digested they must be broken down into glucose." Nor is it correct that hydrolysis is the addition of enzymes. More facts should have been included—for example, how the method of preparation and cooking can significantly alter the composition of different foods.

Vitamins are dealt with in a simple way, information about the vitamin C content of potatoes ignored. Potatoes are not shown to contain this vitamin, yet they supply a quarter or more of it in the average British diet (Household Food Consumption and Expenditure Survey, 1973). No attempt is made to give quantitative information on the nutrient content of foods, which is particularly important to home economics.

Minerals

Minerals similarly are treated in a superficial manner, the rather random selection of foods listed as containing minerals does little to add to a practical understanding of their importance in the diet. It

is not satisfactory to group vegetables under a single heading, much more detailed information is required.

The Water Content of Foods shows the function of water in the body and gives figures for the average daily intake and water loss for people living in a temperate climate. The water content of some foods is also shown but needs qualifying, no allowance being made for the different forms of foods. Milk, for example, does not always contain 85 per cent water.

Energy—Body Fuel Requirements, does not relate energy requirements to body weight, only to effort by the body. Figures are not given which would show the energy required for different activities. Some energy values for "common foods" are supplied, but the figures are not explained, neither is a source of reference given. The classification of belly of pork as a common food is odd, breakfast cereals and even bread are not included.

"Approximate daily requirements" of selected nutrients for various age groups uses the basic foil and overlay to give a build up of facts. The source of reference for the figures given is not indicated, and in several instances these differ from the Recommended Intakes of Nutrients for the United Kingdom (published by the Department of Health and Social Security, 1969). Requirements for the 18 to 35 age group are omitted.

Vitamins are classified by their common name only, and since food labels often list vitamins by their chemical names it would have been useful to have seen both forms given. The nutrients are listed on the basic foil in an unconventional manner, with the requirements for iron and iodine heading the list. As in a previous set energy poten-

tial is not related to body weight. In addition the lecture notes lack detail and explanation.

Precautions When Handling Food, shows the importance of personal hygiene. Other aspects of food handling, storage, cooking and the cleaning of utensils are built up on the basic foil by a series of overlays. The information given is disappointingly basic for home economics, however, and presentation is far from stimulating.

Bacteria

Bacteria, Growth and Food Preservation summarizes in a single frame the main causes of food spoilage, and attempts to show how time and temperature affect bacterial growth. This unit could have contained much more interesting material. Home economics teachers, aware of the dangers of psychrophilic (cold loving) bacteria, will be amused by the statement that bacteria are dormant under refrigeration.

It is evident in the units dealing with nutrition that some attempt has been made to combine the chemical and functional approaches to food studies. Some basic requirements for the teaching of nutrition are not met, and many of the facts appear not to have been selected from the home economics standpoint, which inevitably limits their value.

These visual aids have not fully achieved their objective in helping the home economics teacher to present an introduction to nutrition from the basic concepts of the functions of foods in the body, nor of the value of a balanced diet. Much more information is required, and it is important that the information should be accurate.

Sharon Mansell is organiser of the Nuffield Home Economics Project.



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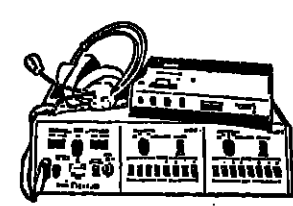
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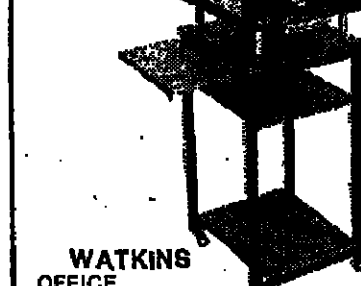
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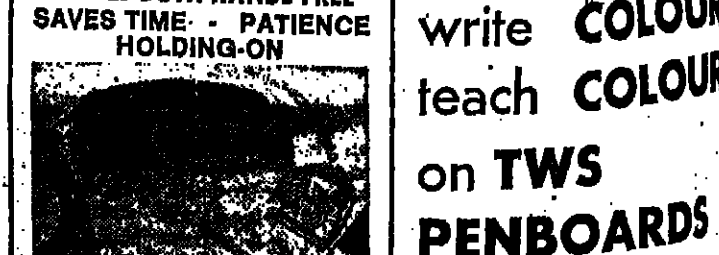
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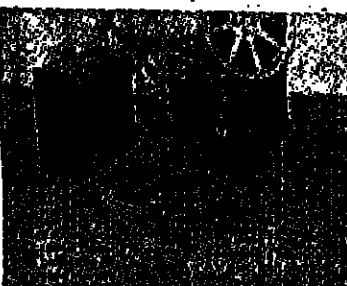
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Opening up all over

Richmond Postgate looks at the issues raised by some case studies of open learning systems

Open learning is a label rather than a system or a method. It describes an approach to learning and teaching which opens the doors of learning a little wider to admit new categories and greater numbers of students and pays more attention to them as people, to their dignity, aspirations and capabilities. Open learning tends to be favourable towards innovation generally and ready to consider, if not always to adopt, whatever help educational technology has to offer. It is usually concerned with part-time study.

This collection of studies covers 13 countries and reports on many different institutions and systems—from the Australian system of external degrees (now 60 years old) to the five-year-old Open University, the newly established University of Mid-America which may become the prototype of regional open learning in the United States, and the correspondence course unit in Nairobi University's Institute of adult studies.

The studies relate a great variety of experience and touch on most of the current issues in post-secondary education. But a few points constantly recur. First, there is the universal aim to reach out and bring learning opportunities to more people. This objective is strongest in developing countries, where the focus is on completing basic schooling for children and adolescents and making it more efficient.

It is strong, too, in certain developed countries, but here the specific objectives tend to be different. It may be aimed at offering people a second chance for general or vocational education, though usually its aim is to offer alternative modes of learning, to remedy dissatisfaction and disappointments, and attract back the alienated and discouraged.

The book includes three studies out of the many attempts in the United States to put the individual adult at the centre of education and to devise courses around his particular aspirations, capabilities and background. It may be true that made-to-measure courses can be afforded only in the richest countries, but none the less they may result in innovations that deserve attention from educationists in countries at all levels of development. One of these case studies (of the non-campus Community College of Vermont) describes low-cost programmes of individualized study, using a level of facilities which would be familiar to many less developed countries.

The interest in individualized study is part of the second aim—to transform education itself and its processes. For developing countries this means sloughing off inherited imposed methods and traditions of pre-independence days and replacing them with curricula more appropriate to development plans and national aspirations.

Extension and transformation are the two principal elements of development plans. This accounts for the preoccupation with teacher supply and pedagogy in most of the studies. A teaching force large enough to teach a modernized curriculum by up-to-date methods is the prime instrument



Talking and thinking at an Open University summer school: the roles of tutor and counsellor at the OU are being modified and refined.

for creating the cadres of qualified people through whom major programmes of national development can be realized. But so long as the teaching force is small, the part-time training offered by open learning will retain a great attraction.

Sometimes big changes of educational policy have brought new systems into being. In Eastern France, distance learning was introduced to meet the need for more trained teachers because of the raising of the leaving age to 16. The first task of the Free University of Iran is to produce competent teachers in secondary schools to teach a modernized

mathematics syllabus. The West Coast Newfoundland, Kenyan and American studies are all concerned with doing more and better teachers. The most innovative and comprehensive scheme—the UNLV English theatre with Simon Ward, Joss Ackland, and Pamela Stiles. £2.95

Open learning distance teaching was a flood and cost little. They are the best plays of the period acted and amusingly related to the development of the English theatre with Simon Ward, Joss Ackland, and Pamela Stiles. £2.95

These open learning systems thus make the individual student and self-learning are developing new pedagogic ideas. Experience and discussion are making and refining the roles of tutors and counsellors in the Open University. The Empire State College employs as its pupil educators the mentor—described various times as "a helper, adviser, counsellor and tutor". The Minnesota Metropolitan College relies to a considerable extent on groups of people known as "community faculty" who hold full-time posts in the community which give them the background experience and competence—in particular skills upon which the student proposes his own course of study may wish to draw.

In the Community College of Vermont the job of the key qualified staff is to diagnose the students' needs and give advice on teaching methods to the faculty, who are, like the community faculty, not primarily teachers. Thus the circle of those who are felt able to assist people to learn is enlarged. This development and the growth of self-help and mutual help between students has clearly an important part to play in permanent education.

Open learning systems that operate over a wide area often use mass communication technology though there is the UNLV context between the two. The UNLV context, for instance, does not use either national radio or television. In advice to the Everyman's University of the Willbur Schramm was very guarded in its advocacy of television, and, after prolonged discussion, Australia has turned away from an Open University/BDO type system.

These case studies of systems and methods show a substantial use of audio and video learning material, whether broadcast or cassette, and show very clearly the integration of the teaching media is more important than the choice of the particular media, and that this choice is more concerned with the future relationship of education and broadcasting in Britain than the problems faced here are only circumstantially different from those that face other country faces, and that, by and large, they seem to have been better resolved in the United Kingdom.

*Open Learning: Systems and Problems in Post-Secondary Education, by Norman MacKenzie, Richmond Postgate and John Sotham, was recently published by Unesco Press (£9.75).

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Science

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Time gentlemen, please!

Frank Anstis on proposed changes in the examination system

Britain's move to a comprehensive system of education has also brought with it a change in the way we examine our children. The middle of November, many of us experienced teachers must now feel that Mr Roy wants to make up their minds for them.

Undoubtedly there are some changes in the examination system for reasons which are either demonstrably unworthy or untenable in a reasoned debate. But it would be as wrong to conclude that all those who argue for caution in the examination system are reactionary as it would be to support the widely held view that the dominant voices in the Schools Council are as much motivated by political theory as by educational concern.

Those who attended the ASE symposium are unlikely to have been particularly reassured. Quite the opposite conclusion seems justified by the facts. Members at the symposium represented a fair cross-section of the 2,000 members registered for the annual meeting, and they had come from all types of school and all kinds of post within the educational spectrum. Attendance was a conference during the Christmas vacation in an atmosphere that was relaxed and informal. The Times reported that the lastest Masters Association annual conference had resolved by a large majority to ask for an extension of at least a year in the time allowed for discussion of this important decision. It was, therefore, disappointing to read in the TES in January 23 that a meeting of council members had agreed to keep to their original timetable despite pleas for postponement.

Even more surprising were the reasons given by two governors of the National Union of Teachers for supporting the decision. Mr Jack Chambers, if he was correctly reported, argued that any additional time would be unnecessary because "many teachers had resolved the report at the end of September" and Mr Walter Roy agreed that the delay would give the subject more time for discussion. The underlying theme of the report which those teachers wanted to take time to get right.

make up their minds. Knowing that copies of the report were not sent to local education authorities for distribution to schools before the middle of November, many experienced teachers must now feel that Mr Roy wants to make up their minds for them.

Changes in the examination system have particularly significant implications in the sensitive area of science education. It is not surprising that a symposium organised by the Association for Science Education at their annual meeting in Oxford in January was attended by more than 300 members. These gave one clear message to the Schools Council education advisers who were at the meeting: a demand for more time to consider the report.

Many members had only just received the report, and the call for an extension of the discussion period was merely a popular expression of a carefully considered formal submission, which officers of the association had sent earlier to the Schools Council.

Two days before the ASE symposium, The Times reported that the lastest Masters Association annual conference had resolved by a large majority to ask for an extension of at least a year in the time allowed for discussion of this important decision. It was, therefore, disappointing to read in the TES in January 23 that a meeting of council members had agreed to keep to their original timetable despite pleas for postponement.

Even more surprising were the reasons given by two governors of the National Union of Teachers for supporting the decision. Mr Jack Chambers, if he was correctly reported, argued that any additional time would be unnecessary because "many teachers had resolved the report at the end of September" and Mr Walter Roy agreed that the delay would give the subject more time for discussion. The underlying theme of the report which those teachers wanted to take time to get right.

Yet, when these undoubtedly experienced professionals met together to discuss the 16-plus proposal, their prime objective was lengthening the period for discussion. This was not because they were opposed to change—indeed most looked to change—in the present dual CSE/CSE system as an urgent necessity—but rather because their very professionalism dictated a concern both for their pupils' welfare and for the future of the subject they teach. However, the delay would give the subject more time for discussion. The underlying theme of the report which those teachers wanted to take time to get right.

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At the interface—a cry for connection

Dick West discusses the implications of changes in school science teaching on higher education

In general terms, it can be argued that the aims of science education in our schools have traditionally focused on the provision of a small, but ever increasing number of able boys and girls who would read for degrees in science and technology as a step towards professional careers in pure or applied science. School science has thus by tradition been tightly interlocked with university science, with one seen essentially as a preparation for the other, and both having strong vocational and professional objectives. The whole process has been essentially concerned with the maintenance of science.

The mechanism whereby this interlocking of objectives — and therefore, of curriculum content and teaching methods — was maintained was in part due to the influence university science teachers on the content and administration of O and A level examinations, and partly to the readiness with which many sixth-form science teachers accepted a dependent position in the educational process.

The major characteristic of the traditional pattern, however, was the certainty with which teachers on either side of the 18-plus fence could view and respect each other. The school teacher knew what was expected of him, why, and what the product of his endeavours would be when he or she went "up". The university teacher, when viewing that product, knew that it had been well trained and was able to make reasonable assumptions about that training — what content had been taught and to what level of sophistication.

The pupil, when considering the transition from school to university,

could face the change in the confidence that both his former and future teachers were in reasonable agreement with respect to aims and outcomes. As a result sound guidance could be given, and accepted, and transfer occurred with the minimum of questioning and heart-searching. All parties, in short, had confidence in the validity of the implicit assumptions made by each about the motives and actions of the other.

In the last decade and a half, significant changes have occurred in our schools which force us to re-evaluate our understanding of the interface between schools and higher education, and perhaps to make explicit the different assumptions that can now be made on the schools' side. In particular we need to explore changes in the objectives of school science, changes in the nature of the relationship between secondary and tertiary education, and changes in the systems of examining school science.

We also need to explore the profound effects that change has had on the ability of people on either side of the 18-plus fence to see those on the other side with any real perception of the problems that exist there. It is this inability to comprehend the problems of others that has perhaps created an area of uncertainty through which many young people do feel disinclined to pass.

During the late 1950s and early 1960s, science teachers felt — or were encouraged to feel — that the science they were then teaching was out of date in terms of both content and method. The over-reliance on classical science supported by traditional textbooks was strongly criticized by leading scientists and teachers.

After early initiatives by the Science Masters Association (now the Association for Science Education), the Nuffield Science Teaching Project was established, and a steady stream of curriculum proposals were published which provided detailed guidance for the planning of new science teaching programmes for pupils aged five to 18.

Concurrent with this massive programme of curriculum development we have witnessed radical changes in the structure of higher education and, more significantly perhaps, the emergence of non-selective, secondary education as a norm rather than an exception.

The CATs went after Robbins' new universities were developed during the white heat of Wilsonian technocracy and stabilized themselves in the 1960s; grammar schools absorbed secondary modern schools to become comprehensive schools, if not in ideology, the campaign to abolish the direct grant system slowly became a reality; and, finally, James and Thatcher combined forces to ensure that the institutions which trained many of our science teachers would become higher institutions that, by and large, will not.

In general, what in curricula and organizational terms could have been a revolution, became turmoil largely because the changes in the different levels of educational system were not guided by any agreed view of a new millennium, nor were the effects of changes in one part of the system on work in other parts realistically talked through.

Opportunism, the Treasury sword, the Department dagger, and sheer political expediency filled the void created by the lack of any real debate on the relationship between education, science and society. Throughout the last decade three imperial groups stared at each other with uncomprehending eyes, mistrusting each other's motives and moves, abdicating responsibility and being accountable to no one.

In the context of science education, university and polytechnic lecturers, school science teachers, and science curriculum developers hiccously recruited from each other, but failed to recognize any previous incarnation.

The university teacher or school teacher working in the temporary system of, say, a Nuffield project per se, became a curriculum developer and not a defender of the faith. He or she presided over the production and did not put a true mediator between the schools and the universities. He did not, or possibly was not allowed to, relate the changes he was proposing in one system to changes that, as a consequence should have been made in the other.

Each level of education remained hermetically sealed from the other. The schools could take up, or leave, the fruits of the individual's labour; they could apply, or misapply, it at varying levels of understanding; proposals were embraced, enunciated or eliminated.

The institutions of higher education, on the other hand, developed courses and content independently of any changes in the school system and played the student number game according to the old rules, and on the old assumptions of the

purpose and nature of secondary education.

As a result, students entering a science department in a university can now have had a widely heterogeneous background of past experiences. Even a group of students with good A levels in, say, mathematics, physics and chemistry will differ radically in terms of the content they have covered, the quantity of content they have been exposed to; and the methods by which they have been taught, let alone the different things they have learnt.

Thus the faculty dean who homogenizes a heterogeneous crowd into a common preliminary course is failing to acknowledge that his ultimate aim, the development of the individual student's intellect to its full capacity, has become at last the aim of others.

School science is slowly becoming an end in itself, rather than a means, and it is therefore important to see that one end is not incompatible with another. This requires all concerned with science teaching to develop anew a confidence in each other's teachers, and an appreciation of each other's problems.

One of the fundamental consequences of recent changes in the educational system is that school science teachers can now hold varying views about the purpose of their teaching. The modern secondary school demands more of the science teacher than the early twentieth-century academic school, a small group of pupils, but it makes that demand also.

Education through science is slowly replacing education in science, but care must be taken that this does not lead to education in spite of science. As science teachers in higher education face with students who are different, and in important respects less well prepared for traditional courses, must differences rather than ignore these differences, and talk with their colleagues in secondary education about them.

In short, differences in attitudes and objectives must become explicit activity that is related to, and by, the socio-political process. The curiosity that supports their scientific knowledge is a weapon in the fight against ignorance, poverty and despair, but a weapon with clear limits regarding range and potency.

These emerging traditions of science education are more than a new paradigm whose implications in curriculum and concepts of classical science are simply replaced by the new paradigm. Here we find ourselves in a new paradigm whose implications have the potential to reshape our universities and polytechnics and create a counter-culture that could ultimately be based in arts rather than the sciences.

As a formal school science is truly comprehensive school which lived through the educational process for science in the curriculum, it is with these developments that my sympathies lie. But sympathies are less without informed judgement that leads to action.

Dick West is Chairman of the research committee on the article was published in THE TIMES on February 13.

basis for the evaluation of a second hypothesis, but the idea of a hypothesis on problems and in which schools and universities seem to be equals employing means to achieve common ends.

They must also be seen as partners in a process of education that has a number of legitimate points. Stenorian claims across a chasm of misunderstanding which state that others are wrong, their jobs properly, can only be noise.

The above analysis of the interface between secondary and university science might that in the face of rapid change in school science teaching, the inability, if you will, of school science teachers to stay any continuing certainty towards university light.

To argue this, however, is to do a grave disservice to an increasing number of teachers who are wandering aimlessly through high seas of the secondary curriculum, but have simply a different light. Their ship, by one, or more, of the considerations.

First, they see school science as a legitimate educational and humanistic activity for all pupils, irrespective of their social or environmental circumstances; a common core of science, a common core of people who accept scientific science, in both its methods and its aims, has something valid to them.

Second, science teachers are beginning to develop the view that school science must be divorced from the remainder of curriculum, but must be seen in relation to the social, economic and cultural problems of life in a modern society; an applied science which, if you wish, but a science which the social problems of life.

Third, a few teachers see science as a mode of intellectual activity that is related to, and by, the socio-political process. The curiosity that supports their scientific knowledge is a weapon in the fight against ignorance, poverty and despair, but a weapon with clear limits regarding range and potency.

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A change of scene

Peter Richmond and Pamela Parsons of Southampton University

on teaching science outdoors

Over the past 15 years have seen great changes in secondary science education but where has it got us? Modern apparatus is ingenious and means to achieve common ends.

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low level technologies to the forefront of interest — solar power, energy from the wind, the generation of methane from rotting vegetation. It is natural to look at such topics positively — to see what they can offer rather than the difficulties they bring. This balance any over emphasis on the disadvantages of scientific advance.

A study of simple energy systems is of national, indeed global, significance. It has the advantage that each particular example of low level technology, by its nature, is small and can be investigated by a team of young experimenters. It also takes them outside and raises environmental and social questions. So little is known about the possibilities and so many design factors exist, that there are many opportunities for pupils to carry out investigations which are worthwhile in terms of their science and also significant in their social consequences.

Low level technology and environmental issues allow teachers to develop new ways and new courses, but this article deliberately concentrates on teaching science outdoors, not environmental science. Enthusiastic biology teachers have taken groups of children on field trips and our contention is that almost any science course, biology-based or not, will be improved if it includes some work outside. Quite conventional science can be taught in the school playground or field. Projects such as Nuffield Secondary Science or Science 5/13 include many activities which necessitate work outside.

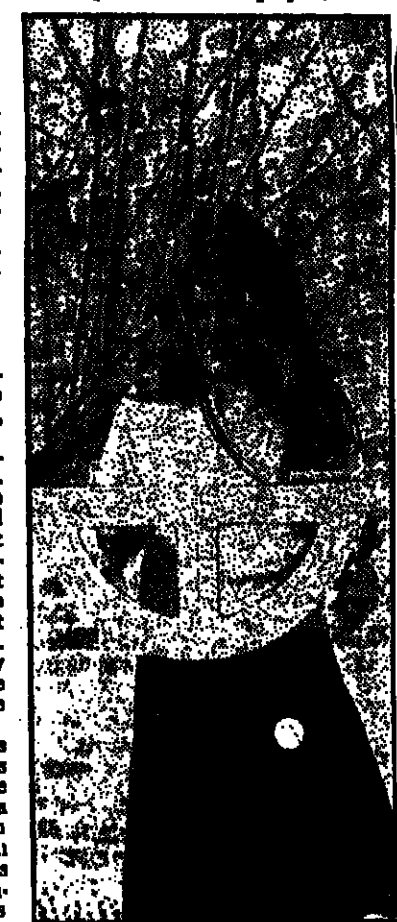
The physicist can find examples in dynamics around him. It is much more interesting to study the elasticity and acceleration of a cyclist or a passing motorcar, than to spend hours pulling trolleys with elastic bands. Every small boy likes to take a mirror and reflect sunlight on to walls or into people's eyes and many a boy has used a convex lens as a burning glass. Such activities with their manifest interest to secondary school pupils can be capitalized on and made part of an optics course which they will enjoy studying. It will also help them to understand optics, which will be satisfying and a sound basis for further studies.

We suggest a way out of the dilemma can be found outside the classroom and laboratory. Allow children to work out of school will answer their expressed wishes for science in context. It will also offer a change of scene and atmosphere and the chance of improving motivation, interest and engagement with their course of study.

Over the past few years environmental science courses have been developed. These have not only involved much work outside and led to focus on the negative aspects of science in the community. Themes such as pollution, conservation or nuclear energy can be treated in an optimistic, positive way, but it is easy to present the effects of the exploitation of science and technology as a reduction in the quality of life. Children need to be able to investigate normal conditions before they can understand the full implications of pollution or disaster on the desirability and feasibility of measures for conservation and management.

Science courses tend to play down the factual aspects of science teaching and learning. They emphasize understanding through the design and execution of investigations, in which the solution is not evident from the initial conditions of the problem. It is educationally desirable for young people to be put in situations where

they make decisions and choices, design experiments, invent ways of displaying their findings. Outdoor science, whether closely related to conventional courses or looking at larger, (that is, low level technology), issues lends itself very well to experimental work in which all these qualities are displayed.



Using a table tennis ball mnemonic.

On the other hand, the decision to take classes outside does not carry with it any implications about teaching methods. It is possible to arrange matters so that quite formal teaching and routine experimental work form part of the course. Teachers who like their pupils to end the day secure in certain knowledge firmly learned need not avoid the open air. However, the teacher who is willing to consider complex situations will find most challenge and interest outside the laboratory. The choice and definition of the problem to be investigated is a primary scientific activity and outdoor science offers plenty of opportunity to practice these skills.

We are selecting and developing areas of outdoor science which can enrich and extend existing courses, in particular those at CSE level. We shall, in due course, produce brief outlines for teachers of ways in which science teaching can proceed effectively outside the school laboratory.

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Doug Kincaid and P. S. Coles

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By Alastair Kennaugh

The fortnightly's firmly stated aim is ambitious: "To give a deeper insight into science and its applications for the benefit of mankind and to develop a greater understanding between young people of all nations." Although this formidable ambition may appear remote from the Welsh sixth-former's

They feel fairly free to voice personal opinions and convictions, especially in the smaller discussion groups, sometimes criticizing political leadership and senior scientists

Applications for places at the fortnight (July 28 to August 11) should be addressed to Mr G. McGowan, director, Council for International Contact, P.O. Box 818, 79/183 Fulham Palace Road, London W6 8OU. Telephone 385 6523.

Jenny Lewis on the value of computers in the classroom

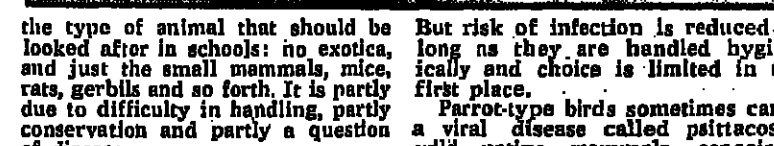
Several years ago the Chelsea Science Simulation Project began at the Centre for Science Education. The type of material to be developed was defined fairly rigidly as simulations at sixth-form level. The idea was to allow the students to delve deeper into the situation being

However, these materials assume the availability of a minimal in a school and are not for the academic children who already have most things in them. A new project is being funded by the Schools Council based at the Chelsea Centre.

The use and care of animals in school by Sally Festing

A third school keeps a full range all the year round. They breed most of the syllabus requirements from amoebae and marine worms for the Nutfield course to *Drusina* (fruit fly) and *Trilobium* (flower beetle) for A level genetics.

with an advisory service to schools and education authorities on subjects like the design of animal houses and general care of animals in schools. They supply information leaflets on the management of individual species (8 Hamilton Close, Potters Bar, Herts EN6 3QD) and give lectures, and of course the *FWAH Handbook* is an encyclopedia on laboratory animal care (Churchill Livingstone 1972).



The health aspect is important but it needs to be kept in proportion, and the school should not keep animals at all, and providing precautions are taken, the hazards are small. Some diseases can be transmitted from animals to man, and they can be bluen or scratched.

By Alec M. Hughes

One of the first of these was the West Midlands branch, by far the largest of the 19 now operating and with a most ambitious programme of activities. In organizing their first schools science conference (then referred to as a junior BA meeting) they realized the importance of bringing young students in contact with leading scientists and technologists, offering them a glimpse

continued on page

D. W. Archer, D. V. Cilluh and W. A. J. Musson

This book is intended for pupils who need to achieve a CSE standard in the physical sciences. It has been written by three experienced teachers who are well versed in modern approach and method, and who are conscious of the needs of the less advanced students who need a clear exposition.

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Numerical Methods for Engineers and Scientists. By A. C. Bajpai, I. M. Calus, and J. A. Fairley. Wykeham Publications £6.75. 085066 097 1.

Numerical methods are now part of all undergraduate courses in science and engineering. Most of what students will need to know has been included in this book.

The book is so designed that the student can teach himself what he needs to know, working at his own speed. Related topics are grouped into units, each of which is preceded by a list of the knowledge required before the unit can be started.

The student is made aware of the need for numerical methods from the beginning. The approach is a very practical one, drawing frequently on problems which students are likely to have met, while studying their main subject. It is always difficult to learn when what one is studying is felt to be pointless, and the authors have been to some pains to avoid this. The text has been photographically reproduced; the layout is generally good and there are some illustrations.

There seem to be few errors. The programmed approach, which has been popularized by the exploration points which might be found, is difficult or confusing in greater detail than is possible with a more traditional text. The language is clear and precise. The examples often are a free and informal style. The "maker" mode of the material seems less forbidding than it often appears in mathematics textbooks. Working through the examples in frames I found it possible to bring up my knowledge — surprisingly quickly — of a student unfamiliar with the material. I was able to gain a good deal of knowledge in a relatively short time, and, while I am sure to the point, would understand what he had learnt.

I can commend this book to all students who wish to know something of numerical methods and have to teach themselves. It is the easiest and most thorough method of doing so that I have seen.

Richard Walker

REVISED

Published by Longman Group for the
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All the titles of the Revised Nuffield Biology publications are now available. The books continue to provide a five-year course leading to an O-level examination, but they have been re-appraised and changed, as the result of a review based on the experience of considerable numbers of teachers.

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**Educational Division,
Oxford University Press,
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The Royal Military College of Science

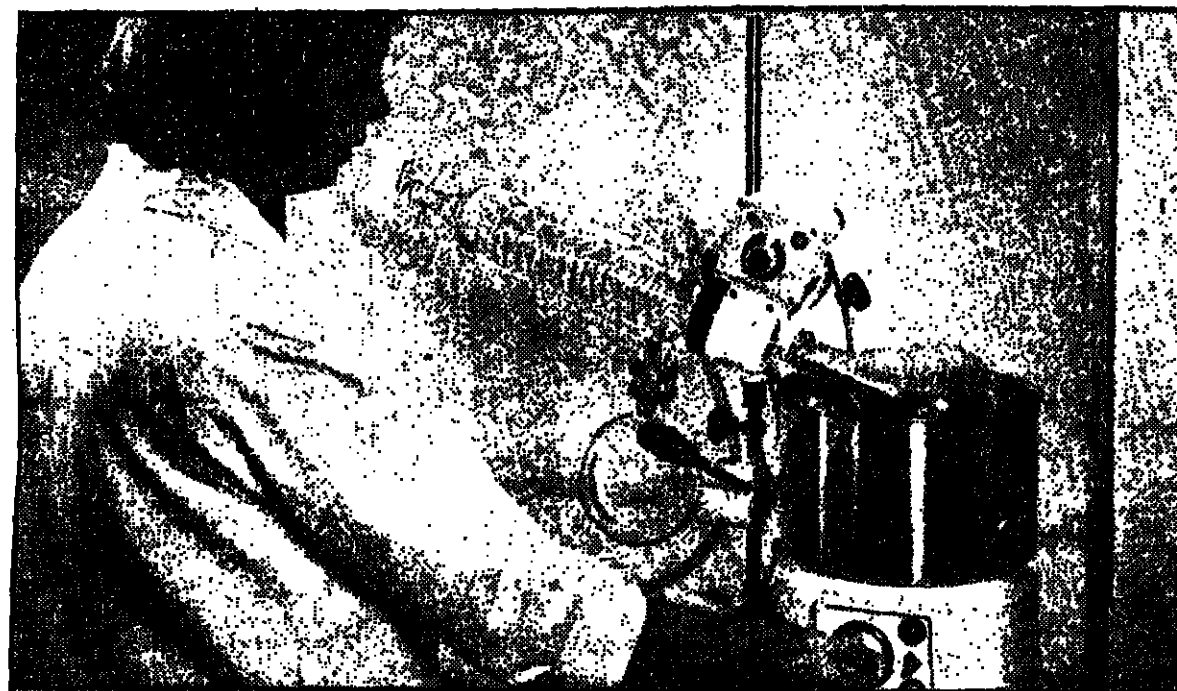
More of a university than a military academy writes Owen Surridge

Project methods of science teaching have now been taken up in what seems a most unexpected quarter: the Royal Military College of Science at Shrivenham, Wiltshire, where young army officers get to grips with the technology of their calling. Formal lectures have not been abandoned, nor are they likely to be, but the two teaching styles meet and complement each other in a tightly controlled tutorial system. This blend of the traditional and the modern runs through most aspects of life at the college. The curriculum is not conceived solely as a primer in the martial arts and it makes more than a passing reference to the general social background of the military role. Women and civilian students, though few, are not excluded. Uniform is worn only on strictly military occasions and all ranks mix in the dining halls. As in most universities students may live out after the first year "in hall" and sport plays an important role in sparetime activities.

College authorities make a great effort to provide a genuine educational experience as opposed to a rigorous military training. Their aim is to give the young officer a broad, balanced view of life rather than the naïvely expert, or, as one lieutenant-colonel put it: "We want to encourage an awareness that soldiering—and the services—are part of society, not set apart from it."

The college sets great store by contacts with the outside world. Its academic staff are of the traditional professorial mould and it entertains a large number of visitors every year. A group of headmasters was among its most recent guests and a group of science teachers will spend two days there next month.

The fact remains that the Royal Military College of Science exists primarily to serve the Army and its present style stems from a review after the Robbins report. Previously it offered courses leading to external degrees from London University in



A thyristor-controlled platform drive in the electrical laboratories.

engineering, general science and specialist science. Now it offers two CNAAs degrees, one in engineering designed to meet the particular needs of the army's technical arms, the other in the applied sciences for officers whose technical requirements are less specialized.

Emphasis on the applied sciences is naturally great, and this offers a great advantage for the civilian student who wishes to work with the civil service through the Ministry of Defence or with firms in the defence industry. Apart from the nature of the courses, they are under no pressure to shape their careers along these lines. Some students move off into the outside world in the same way as any other graduates.

The college encourages civilian

entrants with about a dozen scholarships, each worth £782 a year. So far entry has tended to be limited to those who know the college and the high quality of its facilities.

These last, as next month's visitors will see, vary from laboratories that would not be unfamiliar to some of them are intended for students whose knowledge is at that level—to sophisticated chemistry, electronics and physics laboratories equipped to take the advanced student to the frontiers of knowledge. There are no fewer than four nuclear accelerators, one an electron accelerator used for the modification of materials; the remaining three are neutron accelerators used for analysing neutron

activities, X-ray fluorescence and Rutherford back-scattering.

One major hurdle for all students is mathematics, a sound knowledge of which is absolutely fundamental to much of their work. The college authorities are reluctant to make an outright complaint about the innumeracy that has compelled them to set up a remedial mathematics teaching course, but they are certainly concerned about how the subject is now taught.

They criticize especially the lack of rote learning of vital elements and the use of a modern mathematics teaching method that allows pupils to bypass all but one or two facets of the subject, even at A level. "This grumble is not peculiar to the army; universities and polytechnics are finding the same difficulty. We feel that the schools should recognize the weaknesses of the new mathematics as well as its strengths."

Each degree course runs for three years and both open with a common first year, when students must come to terms with basic science and liberal studies. This last includes such subjects as "The Individual in Social and Political Systems", "Social conflict and revolution" and "Personal behaviour and motivation".

Specialization comes with the second year: engineering students will decide on their main field of activity—civil, mechanical or elec-

trical engineering; applied science students opt for one of the "chemical" mathematics, mathematical methods, instruments and communications (these last physical electronics, optics, acoustics) and the science materials (chemistry), the technology of solid materials and the mechanical properties of alloys.

For postgraduates there are courses in military vehicle technology and guided weapons systems. The college also provides specialized courses in aspects of nuclear science, chemical defence and radiological protection. Search is carried on by the college staff in much the same way as at any university as a complement to their teaching. Research confined to strictly military requirements: those courses are free to follow their inclinations. The health services are responsible for the use of a new alloy discovered there for the construction of artificial limbs and a process that changes the nature of sheet plastic material.

Among the plethora of equipment is a large computer used by students and for real time work by the staff. It is a unique controlling medium for the Army's entire transport system.

While the preponderance of the college is naturally towards the Army's needs, it does not ignore the other services. Courses for the other services are paid as pressure for the coordination of the three services grows.

In the third year all develop their second-year speciality into a major study, plus a complementary minor study and two other subjects. The engineers this involves acquaintanceship with such matters as roads and bridge building, or native or automotive engineering, electronics or telecommunications, for the applied science people an intimate acquaintance with ballistics and statistics, surveillance and instrumentation.

Indeed, the college could now joint services institution. There already been one move in that direction. That it failed probably is no more than that it was premature. The Royal Military College of Science started out as the Royal Society of Woolwich in 1772, its main concern was science. Now all arms participate, including the Infantry and Women's Royal Army Corps, which is appointed by the Board under the guidance of the Under-Secretary of State for the Army—once a private in the corps.



Rotary evaporator in the Rutherford Laboratory.

Social dimensions of science at Sussex

Roy McLeod on the new major degree at Sussex University

For the past five years, Sussex University has pioneered new courses in the "social dimensions of science" at both graduate and undergraduate levels. Beginning in 1975, the university is offering a new major in the history and social dimensions of science, with a complementary minor in physics.

This major enables students to devote about two-thirds of their time (between six and nine contact hours a week) to the study of science and technology as forming part of the social and philosophical fabric of human society. The objectives of the major are twofold. Intellectually, it aims to develop a systematic discussion of issues which have become central to our understanding of the "scientific world view", and to our ability to apply knowledge of nature to the "realist of man's estate". Over three years of lectures and seminars, drawing upon material from history, philosophy and anthropology, we follow the gradual development of different belief systems, and their relation to cultural values, from the "scientific revolution" of the sixteenth and seventeenth centuries, to the elaborate edifice that today defines "modern science".

Midway through the degree, we explore the implications of scientific development for economic growth, industrial innovation, and the use of natural resources. Near the end of the course, we consider the future of science and technology, both as instruments and as modes of thought.

This intellectual orientation is, we

feel, particularly necessary in a university system where it is often exceedingly difficult to pause long enough to ask "Why?" In our experience, few undergraduate scientists in traditional disciplines are encouraged to think; fewer still emerge from their undergraduate studies with a sense of having achieved an "education", as distinct from a training in the techniques and assumptions of a given field of knowledge.

Whether our major will satisfy these ambitious expectations remains to be seen; clearly, it will have only the slightest effect (if that) upon the overall structure of science education in this university. Nevertheless, it seems worth trying—the more so since the *mentality* mirrored in courses such as ours is projecting an image which is strikingly similar to that received from other institutions, including Edinburgh, Manchester and Leicester.

The second objective of the course, if more mundane, is none the less central to our perception of its social function. Vocationally, the major equips students who are interested in science, but who may not necessarily be interested in fundamental research, for professions which require a grasp of scientific methods and principles, and an appreciation of the nature, content and implications of scientific research, technological innovation and industrial development.

The physics and mathematics component will prepare graduates for professional careers in teaching, industrial management and for many posts in the Civil Service; the major component should equip students for research in the social sciences as well. The structure of the course at present is predicated upon a plan devised by members of the divisions of physics and history and social studies of science.

The 12 major courses are designed to provide a coherent approach to the study of science and technology as cultural phenomena and as agents of social and economic change. They have two important dimensions. They are built upon the history, philosophy and sociology of science, as conceptual activities underlying the applications of scientific knowledge, and they embrace economics and political science in relation to industrial activity, to social and technological forecasting and to the applications of science and technology in the Third World.

In this sense, the major courses form a systematic pattern. Substantively, they are intended to introduce students to issues, methods and techniques essential to the scientist who wishes to be familiar with the assumptions of research in the social sciences.

The major courses are taught by social scientists, most of whom have already had experience teaching similar courses at the graduate level, and are at ease in adapting their material to meet undergraduate expectations. The minor courses are taught by regular faculty in physics and mathematics.

The major and minor elements are designed to be mutually reinforcing, and faculty from both the social sciences and the natural sciences have worked closely in their preparation. In the third year, group projects in "physics and technology" give an opportunity for linking the student's scientific work with some of its possible social, economic and industrial implications.

In designing this degree, the choice of physics as a minor was partly accidental, and owes much to the administrative structure of the university. Eventually, we would like to extend our major to other science schools (notably biology and molecular sciences). We are anxious,

however, both to avoid the polarities of a "combined honours" degree, and the asymmetries of a "liberal studies" degree, without trivializing the content of our science minor.

In this case, we have deliberately built our minor from a set of six courses which will give the student a reasonable sense of "expertise" in at least one discipline. These physics courses explore fundamental concepts of classical and modern physics in their relation to physical systems and the applications of physics. We believe this background will enable good students to carry on in physics postgraduate research, if they later choose to do so.

It is too early for us to form a judgment about the major. But we are pleased with the outlook for the first year. We have attracted students who have done "mixed" A levels—including physics-with-mathematics, another science subject (physics, physical science or engineering science), or a mathematical subject, together with an arts or social sciences subject. Those not offering physics, physical science, or engineering science at A level, however, must have a pass at O level in physics, physical science, additional general science, or physics-with-chemistry.

In a sense, there has always been a commitment at Sussex to broaden the base of university education. Our degree is intended to form a part of this plan. It should help students to become not only knowledgeable in a subject, but knowledgeable about that subject. So long as the circumstances of national life oblige us to diversify our skills, and develop our talents in relation to rapidly changing social demands, our graduates will find a useful part to play. At the very least, they will come away with a clearer vision of intellectual alternatives facing the universities in Britain today.

Updated

The Seas. By F. S. Russell and C. McVenge. Frederick Warne 169s. 7232 1763 7.

The Productivity of the Sea. By D. H. Cushing. Oxford Biology Readers 30p. 0 19 9141770.

The Seas, originally published in 1928 by two young marine biologists, is now produced in a new edition in a larger format by the same authors, who in the intervening years have gained distinction and honours in the world of marine science.

They and their preface to the new edition by referring to the many people whose interest in the subject "was aroused by reading The Seas". Within a year or two of publication I was one of them. I have since recommended it to many of my friends, for it is probably the best and most authoritative introduction to the study of oceanography; "the world beneath the surface of the sea".

The book has been brought right up to date, one among many examples being a reference made to the use of space satellites to follow ocean currents by infrared photography.

One of two fascinating new chapters refers to the influence of man on marine life. It is perhaps surprising to read that DDT has been found in Antarctic birds and the dangers of major attempts to introduce foreign species, however apparently desirable, are also set out.

There is a useful bibliography and many new photographs and line drawings which, coupled with the complete revision, add considerably to the value of what was always an excellent book.

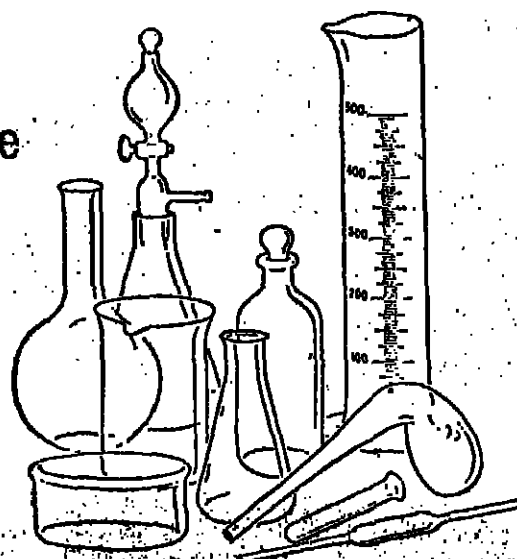
Dr Cushing's *The Productivity of the Sea* is not intended for the general reader. Pointing out in the conclusion that man catches fish "with destructive efficiency", he observes that only international agreement can conserve the fish stocks.

R. C. Vernon

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SCIENCE ON TV

Independent Television for Schools and Colleges produces a variety of programmes intended for use as resource material in science teaching. These series will be transmitted in the academic year 1976/77. Transmission times vary, so teachers should consult the ITV Annual Programme Booklet or contact the Education Officer at their local ITV company for further details.

BIOLOGY

It's Life with David Bellamy Age: 11-13
Ten programmes intended for mixed ability groups, presented by David Bellamy (shown right). These provide visual material which teachers would find difficult or impossible to introduce to the class in any other way. The series will be repeated in 1977/78.

Life's More Life with David Bellamy Age: 13-16
This new series of ten programmes is intended for mixed ability groups aged 13-16. Again presented by David Bellamy, the series will be repeated in 1977/78.

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Living and Growing Age: 10-13
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Effective 'health education' presupposes some knowledge of the human body. The first six programmes of the series illustrate vividly and often dramatically the connections between some important health topics and the related anatomy and physiology. The last two programmes will deal with questions and comments sent in by pupils from schools watching the series.

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Under the teacher's control

Arthur Vials on the BBC secondary science programme for autumn term

Teaching science in secondary schools is changing rapidly. As current science teaching projects influence attitudes, methods and subject matter, teachers feel the need to be aware of them and to modify their teaching accordingly. One snag is the immutability of already published material and the difficulty of replacing or updating printed materials already in stock in the schools.

The media of radio and radio-visual (a radio broadcast integrated with a filmstrip) have many advantages; they can adapt quickly to changing needs and approaches and do not place a great strain on a school's economic resources. They represent a low technology approach to the use of the media and no secondary school should need to buy any more expensive equipment. Strip projectors, radio receivers and tape recorders are already there—and for a small outlay, the flexibility, cheapness and convenience of the cassette-recorder make radio-visual a most attractive medium.

The secondary science programmes to be broadcast this autumn are the result of a thorough investigation of the needs of the schools and a close study of the various projects and examination syllabuses. The School Broadcasting Council have tried out an experimental radio-visual programme and experience gained from this pilot has dictated the form and content of the completed programme. It has also influenced the planning of the other programmes.

From the beginning the intention has been to make the programmes into resources which teachers can use in whole or part. Here, the strengths of radio and radio-visual are their flexibility—as long as you have a tape recording, a radio or radio-visual programme can be stopped and started, sections can be omitted or repeated. Indeed the whole operation is under the teacher's control.

But presentations by the media are of little value unless they do something which the teacher cannot do in the classroom. This was a strong consideration in planning the programmes. For example, one programme in a unit of two on natural and artificial selection has the title *The Sickle Cell Story*. Taking part in this radio programme is Dr Anthony Allison, whose paper on the sickle cell syndrome in 1954 first made the world aware of this manifestation of the effects of selection pressure on humans. By the same token, radio-visual can provide (in one convenient package) aerial photography, the techniques of photomicrography, complex aerial artwork, space photography and pictures which are of historical significance—and this is to mention only a few of the possibilities. And, of course, much of the photography is specially commissioned.

With the available resources in mind, early research on the programmes identified needs and formulated them in broadcasting terms. Then came the pilot stage, during which programme ideas were tried out by the schools, taking part. A revised programme was shown at promotion meetings up and down the country.

The result is the transmission version of the programme, *The Biology of Disturbed Soil*, the first programme of a unit of two with the title *The Coming of a Motorway*. The second programme in the unit—radio programme which has also undergone extensive trials—is a simulation exercise which involves pupils directly in decisions on the routing and building of a hypothetical section of motorway. Here dramatization, one of radio's greatest strengths is fully exploited.

It must be emphasized that the secondary science programmes are not complete lessons; they are resources which can be adapted by teachers. They are suitable for CSE work (sometimes providing

ideas for Mode 3) or O level, and the needs of non-examination pupils have also been considered. There will be 10 programmes (five in each media). The radio programmes will be accompanied by teacher's notes, including material for the pupils which can be photocopied. In this way it is hoped to keep the cost of printed material to the absolute minimum. The radio-visual programmes will be accompanied by full colour filmstrips of 42 frames.

For the autumn term, the programmes will include:
 Unit 1: Vision. One radio-visual programme on the subjective aspects of the topic. It will deal with such subjects as limitations of vision, the defects of the human eye and the scientific aspects of such areas of 'visual arts'.
 Unit 2: Hearing. Two radio programmes similar to *Vision*.
 Unit 3: Micro-Organisms and Public Health. A unit of three programmes: two radio-visual, *Micropods and How They Grow*, and *Keeping You Healthy*. 'Somewhere' will be radio reconstruction of the work of this section.



Investigating the recolonization of topsoil heaps by plants and animals.

continued from page 50
 Science Education, is attempting to provide materials for all ages using batch facilities (sending information to a central computer). The philosophy is fairly simple. There is an attempt to replace perfectly good teaching methods. Rather the idea is to use the computer as a resource as one might use any other technological innovation. The use of packages of material still presents difficulties. There are problems with transferability of programs, and it is very much an individual choice of a teacher. He would perhaps then have to fashion the computer installation on his own. Those teachers with a friendly mathematics department are probably most fortunate.

The cheaper method of using the computer is batch processing. This depends on local organization. At best, information sent away can be processed (usually overnight) and results returned within 24 hours. This depends on a good van service. Once you start depending on the post, things become more hazardous. However much valuable work can be done in this way.

The most obvious candidates are the straight 'number crunching' exercise. Children may have collected a great deal of data which needs processing in a fairly straightforward way, but would take ages to do by hand. An example of this was when a group of sixth form biologists from London went on a field course and collected information on the height and width of limpets on the sea shore. When they got back the

information was processed, a correlation coefficient may not seem particularly useful but it introduced these subjects in a computer and a correlation coefficient. This made a very messy concept a little more data than they possibly have themselves.

Basically, the ideas of using a computer in these ways are to help the teacher and to help the children to go further with investigations. The computer does not replace the teacher but it is used to replace procedures in the laboratory. The idea is to be as efficient as possible and to be as far away from the benches. We have by now reached this stage.

References

- 1.—There are many other ways in which a computer might be used in the classroom, but they are not within the scope of this article.
- 2.—Further information on the Science Simulation Project can be had from Edward Allison, who has been an early publisher of materials already published.
- 3.—Further information on the Council Project Computer Centre for Science Education, 100 Edgware Road, London NW2 4BP.

Jenny Lewis works at the Centre for Science Education and the Unit for Computer Based Education (Hertfordshire).

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Ring of living beauty

by R. C. Vernon

Whatever task our Victorian forebears set themselves, their intensity was formidable, and most of them approached relaxation with the same earnest application as they did their work. This interest in the seashore was largely due to P. H. Gosse, who sought a restoration of his health on the Devonshire coast in the middle of the last century. He wrote a series of books (still readable today but scarce) which, as Sir Maurice Yonge has put it, "took his fascinated countrymen and countrywomen into a new wonderland among the rocks and beaches of their own shores".

Indeed, he nearly did it too well. If the arduous endeavours of Victorian naturalists had continued, helped by railways to visit our

coastal resorts, some parts of the shore line might have been denuded. In *Father and Son* Edmund Gosse tells how in the 1850s "the ring of living beauty drawn about our shores was a very thin and fragile one" and how "the rough paw of well-meaning, idle-minded curiosity" by an army of collectors had ravaged every corner. Happily for us, this over-collecting did not continue.

The United Kingdom has a coastline of about 9,700 miles, covering nearly 650,000 acres between high and low water marks, a large percentage of which is probably the finest training ground for the budding naturalist. In this wonderful open-air laboratory there are representatives of most of the invertebrate phyla in a variety of habitats, sand, shingle, rocks and mud. These animals which live between the tide marks have to be hardy to survive. Uncovered by the water twice daily, they have to cope with the freezing winds of winter and the scorching sun of midsummer, and also survive the occasional dilution of sea water by rain.

Although some areas, such as estuarine mud, may contain few species compared with a picturesque rocky shore, the number of individuals to be found may be startling. But not only a muddy estuary can provide a home for a lot of animals. When next at the seaside, cut a window about a foot square in a sheet of newspaper, lay it over a binnacle-covered rock and start counting. Be prepared in some areas to be still counting after reaching 2,000. Go farther down the shore and do the same thing with mussels and you will have some quite surprising results in your first steps into the fascinating world of marine biology.

Concomitant with the exploration of space, if the books published in the last 10 years are any guide, there has been a similar awakening of interest in the earth's natural history, of which the sea and the seashore have had their share of attention. There are some first-class books which would repay reading before going on a seaside holiday. No longer would the different, and sometimes very beautiful, shore plants be just seaweeds, nor would the question be so mysterious as to why this or that animal—say one of the molluscs—never seem to be found very far down towards the low-tide mark. I am sure that the interest is there, just as it was with the Victorians.

Books about the sea must sell as they would not be published, and surely no one these days can be shy of being seen turning over stones and seaweed and using a hand lens. Please, by the way, remember the naturalists of the future and turn the weeds and stones back.

Now is the moment to suggest that if a holiday anywhere is to be enjoyed to the full, a little preliminary preparation adds materially to the event itself. After all, those who travel abroad frequently do a bit of preparatory work with a phrase book and no bird watcher on holiday will be parted from his field glasses and *Guide to the Birds of*. Anyone planning a seaside holiday in this country or in the Mediterranean, could do to their enjoyment considerably by a modest expenditure.

The basic needs are a simple magnifying lens and a guide book to the animals and plants likely to be found. Fortunately there are two books for the amateur naturalist written with this aim and assuming little or no prior knowledge: *Colinus Pocket Guide to the Seashore* by Barrett and Yonge, covers the coasts of Great Britain and northern Europe, while *The Young Specialist Looks at Marine Life* includes the Mediterranean.

A further along the water's edge and in the tide pools with either of these books is a delightful and rewarding exercise which enables one to experience the joy of discovery.

I still remember vividly the thrill with which I first saw on the southern coast of Spain seashore animals and plants which formerly I had known only from books. It is all summed up in a book for children written by the Reverend W. Houghton in 1889. In *Seaside Walks of a Naturalist* he said: "The naturalist may be anything, everything... whether he make natural history an amusement, or a hobby, or a serious work—it will always offer him exquisite delight." I know from experience that a rock pool low down on the beach can be so absorbing in its fascination that the swirling waters of the rising tide is the only signal that the time to retreat has come.

Science Serves Society

G. C. Speed

This book shows how some of the physical principles taught in O and A level physics lessons are applied in industry or medicine to solve engineering and realistic problems. The book is intended to be used in conjunction with, or as a supplement to, standard textbooks on physics, and is realistically adapted to the classroom situation.

Great care and attention has been given to the format and, with the minimum use of text and maximum use of photographs and diagrams, teachers should find it a convenient and easily used teaching resource. This book is a fine catalogue of illustrations of phenomena in which scientific principles have been used in solving real human needs. —School Technology £1.85

Light and Life

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Keith Roach on the first-year zoology course at University College, Cardiff

At a time when educational technology has been receiving a poor press, for failing to be the answer to teaching difficulties, it is encouraging to report on the use of self-instruction in a first-year undergraduate course in zoology, in response to steadily rising student numbers and a shortage of laboratory space and teaching staff.

The approach is a change from the traditional, time-tabled lecture and practical course to an open laboratory one. The one-year course is divided into 20 one-week units, which the student works through at his own pace, and his chosen time. The core of each unit is a specially written text supported by audiovisual programmes. There are only two fixed periods a week. One is a general session in a lecture room, when all



The laboratory before conversion, providing conventional accommodation for about 35 students.

the students gather to hear a first-hand account of research, or the application of research, or view films and videotapes adding perspective and interest to the subject covered that week, and for summarizing and remedial discussions. The second fixed point is the weekly small-group tutorial, a structured exercise or skills session, chaired by a staff or post-graduate tutor. Field trips, and an extended project exercise are also built into the year's work.

What has been evolved is a highly structured and thoroughly planned course—not in the least open-ended. This is deliberate, since the department feel that a foundation course is the occasion for acquisition of basic laboratory skills and fundamental knowledge of zoological concepts, principles, and data. Opportunities for self-

discovery projects based on this knowledge will come later. The knowledgeable reader will not doubt be aware that this is not exactly novel. We have learnt heavily on pioneers like Keller Plan (1), the Audiovisual Approach (2) and the Open University courses. The texts, for example, are rigorously structured, with in-text and self-assessment questions, and are prefaced with lists of aims and objectives. The course has been written and adopted for writing the units, with myself as editor/producer and with a course director, Dr R. A. Hammond, to supervise the preparation, organization and day-to-day running of the course.

What is new, perhaps, is the full commitment to self-study and the complete integration of text, practical exercises and audiovisual instruction. There is no divorce of theory from practical. The student receives new information from audiovisual programme and text, confirms it experimentally or by observation and answers questions relating to it, all in the same place and in the most appropriate sequence.

To make this possible, the traditional surried ranks of laboratory benches have been replaced by individual study carrels, each containing an audiovisual machine, two microscopes and space for books, materials and specimens. Down the centre of the laboratory is a demonstration/storage bench, holding the materials for the week's practical work. By eliminating most of the timetable sessions and keeping the laboratory open all week, 150 students can be accommodated in this one laboratory, equipped with only 37 study carrels.

The requirements for the audiovisual component were established right from the start as pictures with synchronized sound, providing not only a commentary to the visuals, but also adding natural sound effects, for example, of insects and birds. The pictures had to be in colour, since colour is often such an important feature of animals, as well as adding greatly to the acceptability, interest and interpretability of pictures. It was considered essential to be able to mix still pictures (photographs) with moving pictures, because much of the course would involve the study of living animals, filmed to show their locomotion and behaviour, and because the animation of graphs, diagrams and drawings does so much to ease the understanding of dynamic processes and events.

Several possible combinations of projectors and recorders were considered to try to meet these requirements. Positional (2) had used slide and filmstrip projectors, 8mm loop and cassette projectors, and separate reel and cassette recorders, but the team decided this was too clumsy and expensive. Multiple copies of all sets, for example, would be very costly and a much cheaper software medium was desirable. Simplicity of production was not essential as the centre has excellent facilities, coping with anything from 16mm sound film to high quality audio and video recording in several formats.

The only system that seemed to cover all requirements was what is becoming known as "tape/film": a synchronized combination of Super 8 cine film and separate audiocassette, carrying both sound track and pulse track. Our choice was the Phillips' Programmed Individual Presentation (PIP) system, though the Beeler Cue-See is now an available alternative.

The cassette film is a 16mm film of separate pictures, projected as stills or at any speed up to 24 frames a second as cued by the pulse track on the audiocassette. In a 80-foot cassette, 3,500 frames are available to be stills, animated sequences or full sound synchronized or silent movies. Our units contain three or four 10 to 20-minute sequences shot on the one film, but cued as appropriate by separate audiocassettes for each section. Once the picture has been run up manually to a start frame, the audiocassette controls programme advance in perfect synchronization right through to the final picture and sound instruction frame.

With the PIP type of system, each student has his own personal, tireless tutor, showing the appropriate drawn, photographed, animated or filmed images as new information is presented aurally to him, with plenty of breaks for probing questions and for first hand verification of data by observation or experiment. Cost per student is surprisingly low, too. After the original master film has been shot and edited, the cassetted copies are printed for less than £3 each—for over 3,000 frames. This compares with about £15 for only 80 slides in a Carousel magazine.

All this has, of course, called for close cooperation between the departmental subject specialists and the educational technologists from the design of the audiovisual laboratory to the structuring and editing of the draft texts and the production of the programmes. While one-off



The converted audiovisual laboratory—37 study carrels and a demonstration storage bench.

PIP programmes are easily produced directly on 8mm film, the multiple requirement has meant that shooting on 16mm film, using a 16mm camera, from drawn and animated originals and from transparencies, with 16mm film inserted into the rostrum, and print subsequently. Humphries Laboratories then match the negative and print 50 Super 8 copies. The audiocassettes are produced entirely within the department, with the editing and multiple copies from edited master reel-to-reel recordings. The texts are typeset, and printed in the college's own printing unit. Further details of the production have been given elsewhere (3).

Production is quite a process stretching the resources of the department and using the full teaching staff.

Tour of the tertiary scene

Chemical education beyond A level surveyed by Stuart Trickey, Principal Lecturer in Education at Sheffield Polytechnic

Tertiary chemical education—that which goes on beyond A level in universities and polytechnics and the new institutes of higher education emerging from the amalgamation of technical colleges and colleges of education—has probably changed more in the last five years than in the previous 15.

Several factors have nourished and reshaped the curriculum, teaching methods and assessment. One is the influence of upheavals in science teaching in the secondary schools, which, in the United States, were a response to the first Sputnik war in Britain to the disenchantment of teachers with "traditional" methods and pedagogic methods.

Another has been pressure from society—students and employers—to make chemistry courses to be more student choice and to give students' chances in the workplace.

Further factor has been the change of organization in the department of chemistry, which has to act as focus and support for the challenging of traditional beliefs and practices. One development was the creation of the Education Division of the Society in 1972.

Chemistry, which more than any other subject is one of the most highly revered of professional societies. Not only do chemists can boast of their winners among their members, but also the Education Division, at about 100 members, has members from tertiary institutions, industry and overseas. Teachers in tertiary institutions account for about 40 per cent of the membership.

Through its nine regions, but particularly in the last five years, its members have been especially through its three subject groups: curriculum, educational techniques and assessment—the division has stimulated education projects and has helped through conferences and publications to disseminate information and ideas. The conference-attended project of chemistry is remarkable. Some 20-25 meetings on aspects of chemical education are organized each year and some attract up to 200 participants.

Curriculum In discussing what seems to have happened in curriculum development in the past five years it is illuminating to state first what has not happened. There have been no national curriculum projects of the kind flourishing at the secondary level. Undoubtedly change has occurred but without the traumatic connotations of the secondary sphere.

Not incidentally, has there been quite the fervour of debate in methods: traditional/modern, didactic/discovery, linear/syllabus/ topic projects.

Indeed, some tertiary teachers reading this article may wonder what all the fuss is about for, apart from up-dating syllabuses, their chemistry courses have not altered all that much in 20 years.

Of course, national curriculum projects at the tertiary level are not particularly appropriate. Freedom to choose content, teaching methods and mode of assessment is generally fairly high—considerably higher than in the secondary sector. There is little here of the straight-jacket pinning secondary teachers' externally determined syllabuses and examinations (Mode 3 exception). Consequently, there is no homogeneous system of tertiary chemical education.

modation and so on, all in a 100-page booklet or more.

Clearly there is freedom here to develop along innovative lines, and it is deeply cherished, but freedom with microscopic external scrutiny.

At the top end of the freedom continuum are the universities who enjoy the ultimate flexibility to plan curricula. The only constraints are financial and those they choose to impose on themselves.

What then are the discernible shifts in tertiary chemistry curricula? One trend has been a movement towards diversification of courses, a movement which has come about, directly or indirectly, from reconsideration of aims and objectives. It is not that chemistry lecturers have taken to reading Bloom, Tyler or Mager in their spare time. Most have never heard of them and would not want to; nor have they soaked up the schematic theories of the curriculumologists.

What has happened is that they have had a hard think about what a chemistry education is for and what kind of jobs are open to chemistry graduates. Some may contend that diversification is merely a gimmick to woo chemistry A level sixth-formers back into tertiary education and fill up the third empty laboratories built at such great cost in halcyon days of the early 1960s.

It is certainly true that lecturers feel uneasy about the fact that although A level passes in chemistry have steadily increased, the number of students choosing to study chemistry as a major subject at university level has declined by about 30 per cent since the boom years of 1966 and 1967.

Probably a fair generalization is that 10 years ago a university chemistry department, except one which had undergone metamorphosis from a department in a college of advanced technology and which traditionally had strong links with industry, had the principal aim of turning out competent research chemists. This they were good at. Wings the justifying for research posts in industry or for a PhD studentship.

A remarkable 800 PhD chemists were once turned out every year, a number which far exceeds the annual production of doctorates in any other subject. But then chemistry industry passed into a period of low recruitment, especially research departments, characteristically the first to let up when the economic climate gets chilly. University lecturers were castigated by employers for producing the wrong sort of graduates.

What we see now in response is a wide variety of chemistry courses—more combined or joint honours schemes, unit or modular arrangements, degrees with chemistry and economics, business or industrial studies and chemistry with education.

Quite often, no, chemistry courses have a component, sometimes compulsory, on the social aspects of science. The SISON project, Science in a Social Context, initiated at Leeds University, has enlivened curricula in this area.

Also significant in curriculum development and helping to accelerate change is the greater availability of information on other people's schemes. Here the curriculum subject group has taken an initiative and identified department liaisons and published details of curriculum changes in its Newsletter.

Practical work in the curriculum has come under intense review. Studies have revealed a mismatch in the perception of objectives for staff and students in practical courses and some students have reacted strongly against time-consuming repetition of experiments and verification of established theories. Now there is a greater emphasis on skill acquisition, the designing of experiments, and the interpretation of data from simulated experiments.

Development of the latter has sprung from the work of the Open University which having various limitations for practical work, has looked at different forms of practical activity.

Another interesting development is the use of a computer terminal in a laboratory. Application of the

computer as a sophisticated calculating machine is obvious but less obvious is the use of the computer in an interactive capacity where the student and computer can enter into a simple dialogue. This kind of work is being conducted in eight tertiary institutions as a computer assisted learning project in chemistry (CALCHEM) as part of a national development programme in computer assisted learning.

A certain element of individualized learning has been introduced as institutions have prepared videotape recordings to demonstrate basic techniques such as recrystallization, chromatography or sampling skills for infra-red spectrometry.

Educational techniques There are probably four main influences for change in this area. The first is a growing realization

of the limitations of lectures as a teaching method, the second and third are somewhat consequent on the first, namely an increase in small group or individual learning and expansion in the use of audiovisual aids. Finally, related to all these, is an extension in the use of evaluation techniques to obtain student feedback.

continued on page 58

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1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 26



OTHER POSTS

Post of Responsibility
LAWIN SCHOEN

PRIMARY SCHOOLS

Post of Responsibility
LUKE'S O.E. (J. M. & I.)
SCHOOL
1000 Broad, London, W9 3JL
Tel: 01-969 0276
Entered September, 1970
We Christian Infant Teacher,
responsible for Language Develop-
ment, Spelling & reading
Application forms from The Council
Schools, 8 Manor Road, West Kil-
burn, NW5 6FF. Tel: 01-969 0276

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Post of Responsibility
WATFORDS SCHOOL
10000 Road, Watford, S.W. 17
Tel. 01-871-0971
This school, founded in 1701, has 1,300 boys and girls, in purpose-built accommodation of all range of ability, established A and C "O" level, N.C.S.C. awards
Headmaster
Interviewed in September, 1974
School in George Farquhar Road, Watford, Herts. 11-12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 82

...the many activities of the school, the school's long-term, stable and full relationships between the Executive Boarding Unit and the school board and the role of the unit in the selection and extension of the school board and the role of the school board in the selection and extension of the school board with Special Schools Attorneys.

DAY SCHOOLS

CHARLTON PARK SCHOOL
1000 Park Road, E. F. 7
Tel. 634-6239

Charlton Park School
1000 Park Road, E. F. 7
Tel. 634-6239

Other Appointments

[illegible]

100

Metropolitan Borough of Rochdale
EDUCATION DEPARTMENT
Required for September unless otherwise stated:
Primary Schools

St. John Fisher R.C. Primary (5-11)
Stanclyffe Lane, Middleton M24 3PB
Tel. 643 3271
Required for Easter:
Teacher of Juniors
able to specialise in the teaching of reading (Scale 1). This is a temporary appointment for the Summer term only.
Closing date: 12th April, 1978.

Middle and Secondary Schools
Howarth Cross (10-13)
Albert Royds Street, Rochdale, Tel. Rochdale 31678
Head of French (Scale 3)
Further details from the school.
Closing date: 18th April, 1978.
Kingway (10-13)
Turt Hill Road, Bingley OL6 4XA

First Year Tutor (Scale 2)
To act as class teacher and to assist the co-ordinator of First Year Studies, with Administrative and organizational duties.

Second and Third Year Tutor
(Scale 3)
To assume responsibility for the organization of pastoral care in the second and third years. There will be a post-time teaching commitment.
Closing date for both posts 12th April, 1978.

Durnford High (11-14)
Reclory Street, Middleton M24 3TS. Tel. 643 3945
Required urgently for Easter:

Housecraft and/or Needlework
(Scale 1)
Temporary appointment for Summer Term only.

Geography (Scale 2)

Closing date for both posts, 12th April, 1978.
Balderstone Community (13-18)
 Queen Victoria Street, Rochdale OL11 2HF
 Tel. Rochdale 49049

Craft (Scale 1)
 Well established examination courses including 'A' level. This is a temporary post for one year only, but could be permanent for a suitably qualified candidate.
 Applications from teachers seeking a first appointment welcome.

Group Tutor (Scale 1)
 Responsible for basic work in English/Humanities with a small group of fourth and fifth year pupils. This is a temporary post for one year.
 Applications from teachers seeking a first appointment welcome.

Greenhill (13-18)
 Felling Road, Rochdale. Tel. Rochdale 81246

Head of Home Economics (Scale 3)

Wide variety of courses including "A" level.
Closing date, 12th April, 1978.
Bishop Marshall Memorial R.C. Secondary
(11-18)
Martindale Crescent, Langley, Middleton M24 3PQ
Tel. 643 8700

Head of Social Studies (Scale 3)
To organize the teaching of History, Geography
and Sociology.
For further details please telephone the Head
Teacher.
Social Priority School Allowance payable.
Closing date - 12th April, 1978.
Sutherland High (11-18)
Sutherland Road, Darnhill, Heywood OL10 3PL
Tel. Heywood 80466

Head of Faculty of Languages and
Communications (Senior Teacher Scale)
A well qualified and experienced teacher is
required to assume administrative and creative

responsibility for this new Faculty within a growing 11-18 Comprehensive School.
The Faculty includes, Drama, Music, Commerce and Modern Languages.
Closing date, 12th April, 1978.
Moorclose High (14-18)
Kenyon Lane, Middleton M24 2DG. Tel. 643 5176

Integrated Science with Biology

(Scale 1)

Commercial Subjects (Scale 1)

Closing date for both posts, 12th April, 1978.
For posts in Primary Schools, application forms and further details are available from the Chief Education Officer, Education Department, Municipal Buildings, Manchester Old Road, Middleton M24 4EA.
For posts in Middle and Secondary Schools, application forms and further details are available from the School.
All requests for application forms must be accompanied by a stamped addressed envelope.

All forms should be returned to the Head of the School.

[illegible]

Closing date 12th April.

Assistant, Scale 1, to be a member of the Second Year team, in an open-plan situation and to teach a small amount of Art in the Third and Fourth Year. Imaginative and creative person required, able to integrate. Closing date 12th April.

Special Schools

Primary

Elmhurst County Junior, Street (400)
Teacher, Scale 1. Ability to assist with Drama and Boys' Games an advantage. Closing date 12th April.

Trull C.E. V.A. Primary, Jr. Taunton
(Group 4)
DEPUTY HEAD, Infant/Lower Junior experience 8

Milborne Port County Infants, nr. Sherborne Dorset (113)
Assistant, Scale 1, for RECEPTION CLASS.
Interest in P.E. desirable. Temporary post. Close
date 12th April.

Norton St. Philip C.E. V.A. Primary, nr. Bath
BA3 8LU (36)
Assistant, Scale 1, for Infants. Communicant m
ber of the Church of England. Closing date
April.

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NUMBERSIDE

EAST RIDING DIVISION
WOLFELTON SCHOOLS
Cedar Lane, Wilber, Hunt H110
SJR
Co-educational Comprehensive
Number on Roll 1,300
Surrounding surroundings five miles
west of Hull
TEACHERS: PHYSICS, Sc. 1.
1974-75 September, 1974
Application forms and further de-
tails about the post and the school
can be obtained from the Head of the
school, to whom completed forms
should be returned by April 6,
1975.

NUMBERSIDE
EDUCATION COMMITTEE
Hull City
HEALTH COMPREHENSIVE
SCHOOL

Editor: Mr. C. Pritchard
B.Sc.
Number on Roll: 650
Required for September, 1976
TEACHER OF CHEMISTRY, SCIENCE
for an expanding and successful Junior
High School. Candidates are well
established to both C.S.E. and
O level.
The school is situated in a pleasant
area at the end of the
Lincolnshire
Application forms and further in-
formation obtainable from the Head
Teacher at the school to whom they
may be returned within 10 days
of this advertisement.

**EDUCATION COMMITTEE
SCUNTHORPE DIVISION
WILKINSON COMPREHENSIVE
SCHOOL**
Whitworth, near Scunthorpe
Headmaster: A. Ecclesstone.
(Number on Rob 1780)
Required for September, 1979. 1
TEACHER of PHYSICS. Scale 1
post.
The school is housed in purpose
built premises situated in rural sur-
roundings five miles north-east of
Scunthorpe.
Application forms may be ob-
tained from the Headmaster at the
school and should be returned by

HUNTINGDON
HUNTERDUNBROOKS SCHOOL
(11 to 12 mixed comprehensive)
Required for September 1976:
A TEACHER OF BIOLOGY to share in the work of the department throughout the school. Feasibility of "A" level work for suitable candidate. Ability to teach Physical Science in the Lower School desirable.

This voluntary controlled school grew out of Huntingdon Grammar School and in September will have 1,600 pupils, 800 in Sixth. Outstanding teachers.

Apply by letter to the Headmaster with curriculum vitae and names of two referees, also one testimonial if available.

ISLE OF MAN
BOARD OF EDUCATION
RAMSEY GRAMMAR SCHOOL
 1780 Co-educational
 Comprehensive, 11 to 18
 Required for September, 1976, in

ISLE OF MAN
BOARD OF EDUCATION
EDUCATION DEPARTMENT
Application forms and further details from the Headmaster, Ramsey Grammar School, Ramsey, Isle of Man, for admission to the school in September 1979 should be returned to the Education Department, Ramsey, Isle of Man, by Wednesday, 14th April, 1979.

ISLE OF WIGHT COUNTY COUNCIL
 VIRGINIA BEACH HIGH SCHOOL
 15-17 miles comprehensive
 \$300 on roll 200 in Black Forest

Faculty and teaches a variety of special and integrated courses to students as an important element of a common curriculum to 16 plus. The school has excellent facilities and the Faculty enjoys generous technical assistance. The successful candidates would be expected to teach the subject to all levels, including the 11th Form, but the ability to offer a second subject and a willingness to participate in integrated courses will be a strong

be offered to someone of suitable experience and qualifications but applications will be welcomed from newly qualified teachers.

Removal and reemployment scheme up to maximum of £400.

Application form and further particulars from the County Education Officer, City Hall, Newport, Isle of Wight, PO30 1UD.

Richmond upon Thames
 Comprehensive : 900 Mixed)
 Whiston, Middlesex
 for the following post
 available. £267.

Department
(ale 4)

Physics and/or Chemistry is
and co-ordinate the work of a
specialists with strong laboratory
background. The post offers the opportunity to
be a member of the school's curriculum
development team.

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required in some
 following a
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 Remedial Ma
 History, Geog
 Application
 qualifications
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[illegible]

(2) Teacher qualified to teach
IES and TYPING, who
teach some GENERAL STUDIES
School, Scale 1.

(3) Teacher qualified to
ENGLISH up to C.S.E.,
1.

(4) Teacher qualified to
OMICS, to be responsible
possibly "A" level NE
1.

PRIMARY SCHOOL
ST. HELEN'S R.C., Aberdare
Required for September.
Teacher qualified to teach
at the new Nursery Unit
Teacher-In-Charge and
being member of the A.C.

Teacher-in-Charge and Nursery Assistant
 Visiting member of the R.C. faith preferred
 J.

Successful applicants will be required to submit a satis-

SCHOOL **CAERNARFFON**
N.B. R.C. Aberridwr, Caernarff
new for September, 1976.
qualified to teach a **NURSERY CLASS**
New Nursery Unit and to join a team of
in-Charge and Nursery Assistant. Prac-
member of the R.C. felt preferred. Scale

TEACHING
conducted, qualified Teachers who have com-
their probationary period, required for
teaching, to take the place of
is absent for in-service training or other
1. Travelling expenses are payable. Scale
Initially but Scale 2 after completion of
a service in such a post.
terms, to be returned by 7th April, 1976,
receipt of a stamped, addressed, foolscap
to the District Education Officer, District
Office, Council Offices, Ystrad Mynach, Hen-

COMMERCIAL SUB-
SCHOOL PSYCHOLOGICAL CENTRE,
CAERNARFFON
N.B. R.C. Aberridwr, Caernarff
qualified to teach **COMMERCIAL SUB-**
Scale 1. This is a part-time appoint-
or 15 days per week. Candidates must
be able to speak Welsh fluently and write the lan-

EDUCATION
SCHOOL PSYCHOLOGICAL CENTRE,
experienced Teacher who has successfully pursued
year course in the teaching of Handicapped
for appointment as **ADVISORY REME-**
DIATION TEACHER, Scale 3 post.
must be returned by April 7, 1976, or
the undersigned on receipt of a stamped,
can envelope.
J. L. BRACE,
Director of Education.

Cambridgeshire, Peterborough Area

Deacon's School, Queen's Gardens, Peterborough, PE1 2UW

GROUP 10

Deacon's School has a long and successful tradition as a Boys' Grammar School. The first comprehensive intake of 120 boys and girls arrives in September and thus over a five year period the school will expand from 400 to 720.

- DH1 HEAD OF HISTORY—Scale 3**
(Vacancy due to promotion)
- DMU1 HEAD OF MUSIC—Scale 3**
(Vacancy due to retirement)
- DM2 HEAD OF HOME ECONOMICS—Scale 2**
(New post)
- DR1 HEAD OF REMEDIAL EDUCATION—Scale 2**
(New post)
- DEP2 MASTER TO TAKE CHARGE OF BOYS' P.E.—Scale 2**
(Vacancy due to promotion)
- DEP22 MISTRESS TO TAKE CHARGE OF GIRLS' P.E.—Scale 2**
(New post)
- D/2 LANGUAGE MASTER/MISTRESS—Scale 2**
To teach French through Latin, could be made available in (New post)

In each case an able and energetic person is looked for who will maintain the School's high standard in a form due to the comprehensive intake. Applications as soon as possible by letter with curriculum vitae and the names and addresses of two referees to the Head Master, from whom further information may be obtained (S.A.E.).

There is a possibility of assistance being given with housing and removal expenses in appropriate cases.

Junior (Sixth Form) Colleges

Scale 1 Posts

EAST SUSSEX COUNTY COUNCIL

CHICHESTER AREA

CHICHESTER COLLEGE

CHICHESTER COLLEGE

CHICHESTER COLLEGE

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YORKSHIRE
ENDSIVE SCHOOLS (HMC)
For September 1975, TEACHING in Aged 11-16, 16-19, 18-24, and 25-30, in the following categories, at the following levels in the following schools, is available. Scale 2 post, f.t.c. pre-employment. Ability to help with games particularly with curriculum time and extra-curricular activities. The school, Mount St. Mary's College, Bradford, via Sheffield S31 1JG, can supply.

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Bartholomew School, Washington Heights
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DORSET

SOUTH DORSET TECHNICAL COLLEGE

HEAD OF DEPARTMENT OF BUSINESS STUDIES (GRADE III)

Applications invited from suitably qualified and experienced candidates for this senior appointment vacant from September, 1976.

Assistance with removal and incidental expenses. For application form and further particulars send stamped addressed foolscap envelope to the

County Education Officer (F.E.)
County Hall, Dorchester, Dorset, DT1 1XJ.

WARWICKSHIRE COUNTY COUNCIL EDUCATION DEPARTMENT

East Warwickshire College of Further Education
Clifton Road, Rugby
Telephone No: Rugby 76181/2
Principal: P. G. Farley, B.Sc. (Hons)

Applications are invited for the following posts and appointments to commence from 1st September, 1976.

Head of Department of Business and Management Studies (Grade IV)

Head of Department of Engineering and Science (Grade IV)

Details and application forms from the Principal. Closing date: 9th April, 1976.

WARWICKSHIRE COUNTY COUNCIL EDUCATION DEPARTMENT

Mid Warwickshire College of Further Education
Warwick New Road, Leamington Spa CV32 5JE
Applications are invited for the following post from 1st September, 1976.

Faculty of Art & Humanities HEAD OF DEPARTMENT (IV) OF SOCIAL SCIENCES & ADMINISTRATION STUDIES

Further information and application forms from the Principal on receipt of a stamped addressed envelope. Closing date 9th April, 1976.

Leicestershire

SOUTH FIELDS COLLEGE OF FURTHER EDUCATION

Principal: E. W. BEECH B.A.

Applications are invited for the post of

HEAD OF DEPARTMENT OF CATERING (GRADE IV)

commencing 1 September 1976; due to the retirement of the present Head.

Further particulars are available from the Principal, Aylestone Rd., Leicester, LE2 7LW.

COLLEGES OF FURTHER EDUCATION continued

KENT COUNTY COUNCIL EDUCATION COMMITTEE

SOUTH KENT COLLEGE OF FURTHER EDUCATION
Ashford, Dover, Kent
(1) HEAD OF BUSINESS STUDIES DEPARTMENT (Grade II)

(2) HEAD OF CONSTRUCTION DEPARTMENT (Grade II)

Applications are invited for the above posts which become vacant from September 1976, due to a promotion and a retirement. Successful candidates should possess a degree or equivalent qualification and have experience in further education.

Application forms and further particulars can be obtained from the Principal, South Kent College of Technology, Kent, LE1 1XJ. Closing date for applications: 30th April, 1976.

LEEDS CITY COUNCIL

DEPARTMENT OF EDUCATION
THOMAS DANBY COLLEGE
Principal: Dr. J. J. Woffey

HEAD OF DEPARTMENT OF TECHNOLOGY (Grade IV)

Applications are invited for the above appointment due to the resignation of the incumbent. The successful candidate should have a degree or equivalent qualification and have experience in further education.

Application forms and further particulars can be obtained from the Principal, Thomas Danby College, Leeds LS1 3XJ. Closing date for applications: 15th April, 1976.

LINCOLNSHIRE COLLEGE OF FURTHER EDUCATION

HEAD OF DEPARTMENT OF BUSINESS AND MANAGEMENT STUDIES (Grade IV)

Applications are invited for the above appointment due to the resignation of the incumbent. The successful candidate should have a degree or equivalent qualification and have experience in further education.

Application forms and further particulars can be obtained from the Principal, Lincoln College of Technology, Lincoln. Closing date for applications: 15th April, 1976.

LINCOLNSHIRE COLLEGE OF FURTHER EDUCATION

HEAD OF DEPARTMENT OF BUSINESS AND MANAGEMENT STUDIES (Grade IV)

Applications are invited for the above appointment due to the resignation of the incumbent. The successful candidate should have a degree or equivalent qualification and have experience in further education.

Application forms and further particulars can be obtained from the Principal, Lincoln College of Technology, Lincoln. Closing date for applications: 15th April, 1976.

EDUCATION DEPARTMENT

Applications are invited for the post of

PRINCIPAL

from 1st September 1976 at the

HAVERING TECHNICAL COLLEGE

Salary: Group 6 under Burnham F.E. Report plus London Weighting.

Further details and application forms (s.a.e.) obtainable from the Director of Educational Services (Ref. C.G.T.), Education Department, Mercury House, Mercury Gardens, Romford RM1 3DR. Forms to be returned by 16th April 1976.

HUMBERSIDE COUNTY COUNCIL

Hull College of Further Education

Applications are invited for this new post arising from the re-organisation of further and higher education in Kingston upon Hull.

Applicants should have teaching experience, together with a degree/professional qualification and commercial experience.

SECRETARIAL STUDIES

Head of Department Grade 3

Salary: £6,543-£7,335 per annum

Further particulars and application forms, to be returned no later than 16th April, 1976, may be obtained from the Director of Education (Ref. FE), County Hall, Beverley, HU17 9BA.

Other Appointments

AVON COUNTY COUNCIL

MILTON TECHNICAL COLLEGE
Tilton, Hertford, Herts
(1) HEAD OF BUSINESS STUDIES DEPARTMENT (Grade II)

(2) HEAD OF CONSTRUCTION DEPARTMENT (Grade II)

Applications are invited for the above posts which become vacant from September 1976, due to a promotion and a retirement. Successful candidates should possess a degree or equivalent qualification and have experience in further education.

Application forms and further particulars can be obtained from the Principal, Milton Technical College, Tilton, Hertford, Herts. Closing date for applications: 30th April, 1976.

HARNEY COLLEGE OF FURTHER EDUCATION

HEAD OF DEPARTMENT OF BUSINESS AND MANAGEMENT STUDIES (Grade IV)

Applications are invited for the above appointment due to the resignation of the incumbent. The successful candidate should have a degree or equivalent qualification and have experience in further education.

Application forms and further particulars can be obtained from the Principal, Harney College of Further Education, Harney, Kent. Closing date for applications: 15th April, 1976.

LONDON BOROUGH OF BEXLEY

ERITH COLLEGE OF TECHNOLOGY
Tower Road, Bole, Kent DA17 8JA
Principal: D. F. Glover, M.A., B.Sc., F.C.I.S., B.M.B.

Applications are invited for the following posts to take effect as soon as possible. Stage 1 and 2 of the College on a magnificent site near the existing College are now complete and in full occupation.

LECTURER GRADE II IN RESIDENTIAL CARE

Required to be responsible for the organisation of Civil and Residential Care Courses and act as course tutor for the In-Service Residential Care Course. The person appointed must be a specialist in the field of Residential Care, have experience of working with Local Authority Officers and be conversant with C.C.E.T.S.W. Courses. Candidates must be well qualified in the social work field. Some teaching/instructing experience is desirable. (Ref. S.5.1)

LECTURER GRADE II IN BUILDING CONSTRUCTION

Required to teach Building Construction and associated subjects in Surveying Courses at professional and technical level. Ability to teach Services or some of the specialist surveying subjects an advantage. (Ref. B.1)

LECTURER GRADE I IN DESIGN PROCEDURES

Required to teach Design Procedures and allied subjects to architectural and building technicians. Applicants should possess Higher National Certificate or equivalent qualifications. (Ref. B.2)

LECTURERS GRADE I (Four Posts) IN BUILDING CRAFTS

(a) BRICKWORK (Ref. B.3)
(b) CARPENTRY & JOINERY (Ref. B.4)
(c) PAINTING & DECORATING (Ref. B.5)
(d) PLUMBING (Ref. B.6)

to teach to Advanced Craft and, ultimately, F.T.C. level. Applicants should hold a Full Technological Certificate or equivalent.

LECTURERS GRADE I (Four Posts) IN BUSINESS STUDIES SUBJECTS

(a) SOCIOLOGY (with PSYCHOLOGY if possible) (Ref. B.5.1)
(b) GENERAL PRINCIPLES OF LAW (Ref. B.5.2)
(c) ACCOUNTS & OFFICE SYSTEMS (Ref. B.5.3)
(d) COMPUTING & QUANTITATIVE METHODS (Ref. B.5.4)

to teach mainly in O.N.D., O.N.C. and "A" level courses. Applicants should preferably be teacher-trained or have part-time teaching experience and be willing to offer one or more minority-time teaching subjects.

LECTURER GRADE I IN FABRICATION ENGINEERING

Required to teach mainly in City & Guilds Craft Courses and T.O.P.S. Courses in Fabrication & Welding Engineering and Light Vehicle Body Repair. Applicants must possess appropriate City & Guilds qualifications and have sound industrial experience. Teaching/instructing experience (full or part-time) is desirable. (Ref. E.1)

Application forms and further particulars from the Senior Administrative Officer, Erith College of Technology, Tower Road, Bole, Kent (ER17 8JA) (quote reference of post) to whom they should be returned within two weeks of the appearance of this advertisement.

The Council operates an enhanced scheme of fringe benefits for staff, including payment of legal fees, house purchase, removal expenses and disturbance allowances.

THE TIMES EDUCATIONAL SUPPLEMENT 26.3.76

COLLEGES OF FURTHER EDUCATION continued

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CITY OF MANCHESTER EDUCATION COMMITTEE ABRAHAM MOSS CENTRE Crescent Road, Manchester M8 6UH Principal: R. Mison, B.A.

Required for September 1976:

FE/1 SENIOR LECTURER

in the Department of General and Business Studies to be responsible for all the G.C.E. work of the Department; to teach in an appropriate subject area (English, Science, Maths, Humanities, Social Sciences, or General Studies); and to act as Deputy to the Head of Department. For a suitable candidate, this post could be combined with that of English Consultant for the whole Centre; but applications from other subject disciplines will be considered equally.

FE/2 SENIOR LECTURER

in the Department of Art, Craft and Technical Studies to organise Technical Studies courses in the Department and to take responsibility for their development in the 16+ sector of the Centre; to undertake a teaching commitment in an area appropriate to the Department, probably in Technical Studies but to be involved in a wider capacity both as Deputy to the Head of Department and in forging close links with the 11-16 sector.

Senior Lecturer Salary Scale: £5,343-£6,267. For application form (returnable within 14 days) and further particulars, send self-addressed envelope to the Senior Administrative Officer, The Abraham Moss Centre, Crescent Road, Manchester M8 6UH.

Department of Social Service

Thorp Park School, Boston Spa, Wetherby, W. Yorkshire

SECOND DEPUTY (Education)

(ref: TEL/925)

TEACHER BURNHAM SCALE II

(ref: TEL/926)

(2nd Deputy) JNC Scale 25, 100-55,970 per annum (Teacher) Burnham Scale 25, 100-55,970 per annum, plus L.O.A. 50% and A.S.L. 25% per annum

Second Deputy (Education)

Applications invited from persons with good experience in both the remedial teaching of disturbed and backward boys and their residential care. The Second Deputy leads a team of eight teachers and has responsibility for all classroom work and its development. He also plays a principal part in the running of the school, liaison with parents and psychologists, social workers, etc. In addition, he will take full charge of the school in the absence of the Head and Deputy and will be involved in the total care of the boys and support of all staff of a multi-disciplinary team. There is a 3-bedroomed house available on rental for the Deputy.

Teacher Applications invited from qualified teachers in this community school where most of the teaching is individual and remedial, with small groups, as the boys are generally retarded educationally. Experience in working with disturbed and backward boys in a residential school will be an advantage. The person appointed will be responsible for the teaching of the boys, for the supervision of the staff, and for the residential care of the boys. Internal visits are welcome—ring Headmaster, Mr. R. W. Underwood, Boston Spa, Wetherby, from whom application forms and further details may also be obtained by writing enclosing a stamped addressed envelope to the Senior Administrative Officer, 14 days after appearance of this advertisement.

LEEDS

Somerset

Brode College, Street, Somerset

In association with
H.M. Prison, Shepton Mallet, Somerset

Prison Education Officer

Applications are invited for the above full-time post from qualified and experienced teachers, preferably with interest in remedial teaching of basic subjects. The appointment is to be effective from 1st September 1976.

Brode College is a new tertiary college providing comprehensive education facilities in mid-Somerset, in association with G.C.E. A-Level work in the area and a substantial volume of Adult Education.

H.M. Prison Shepton Mallet is a training prison for about 270 adult male offenders. This is a newly created post which offers good scope to an imaginative teacher with organising ability.

Salary: F.E. Lecturer Grade II, £3,270-£5,493 p.a., to be increased by 5.5% p.a. from 1st April 1976, under a recent Burnham agreement. Starting salary depends on qualifications and experience.

Further particulars and an application form may be obtained from the Principal, Brode College, Church Road, Street, Somerset, BA10 0AB, to whom applications should be sent by 22nd April 1976. Please supply a large stamped addressed envelope.

Teachers' Centres

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NORTHUMBERLAND

COUNTY COUNCIL

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TEACHERS FOR OIL COMPANY

Libya

The Arabian Gulf Exploration Company, a major oil company in Libya offers excellent career opportunities to qualified teachers.

ENGLISH LANGUAGE INSTRUCTORS - £8,500 p.a.

To teach from elementary to advanced levels in either Benghazi or Tobruk. Responsibilities include: to plan and prepare courses; to set up and implement examination procedures. A TOEFL qualification is desirable.

MATHEMATICS TEACHER - £6,500 p.a.

To teach mathematics from elementary to advanced levels in Benghazi.

A recognised teaching certificate or diploma and a minimum of three years experience are essential for both posts. Appropriate degree qualifications are desirable but not essential.

- 28 days annual vacation plus Fridays and official holidays, with free return vacation air fares.
- Up to 60% transfer of net salary.
- Free medical care and life insurance whilst in Libya.
- Children's educational assistance.



Please write quoting Ref. R5/TES/76, giving your age, nationality, marital status and a brief resume of career to:

THE ARABIAN GULF EXPLORATION CO. (UK)
35-38 Portman Square, London W1H 9FH

YOUTH AND COMMUNITY SERVICE continued

BIRMINGHAM

YOUTH WORKER

Our accommodation worker, Anne Jordan, is leaving us at the end of June. Although it will be difficult to replace her, we are looking for a person qualified to deal with the following areas:

- (a) Development of hostel accommodation and support of staff therein.
- (b) Development and maintenance of a residential scheme/support person for landladies.
- (c) Link person with our night shelter including limited facilities for the young men who are accommodated.

For job description and application form, contact: Les Milner, Director, Birmingham, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

BRISTOL

Experienced YOUTH WORKER

BRISTOL Youth Project is seeking a Youth Worker to provide information, workshops and an informal social contact for a variety of young people (15 to late 20s) but no formal commitment. The team of three full-time workers are employed by the Youth Council, a voluntary organisation, the national community and youth work organisation.

A vacancy has arisen for an experienced Youth Worker to be involved in advocacy with statutory agencies, counselling and providing support. Knowledge of welfare/health care, housing issues or sex education would be an advantage. Salary: £2,500 p.a. plus £1,000 p.a. for housing. Starting point according to experience.

Apply to: Marshall, VVVF, 7 Leonard Street, London, E.C.2, Tel. 01-251 0072.

GLOUCESTERSHIRE COUNTY COUNCIL

Applications are invited from

qualified teachers for the following posts: (a) Teaching, (b) Teaching, (c) Teaching, (d) Teaching, (e) Teaching, (f) Teaching, (g) Teaching, (h) Teaching, (i) Teaching, (j) Teaching, (k) Teaching, (l) Teaching, (m) Teaching, (n) Teaching, (o) Teaching, (p) Teaching, (q) Teaching, (r) Teaching, (s) Teaching, (t) Teaching, (u) Teaching, (v) Teaching, (w) Teaching, (x) Teaching, (y) Teaching, (z) Teaching.

Salaries in accordance with N.C.E. Staff for Youth Workers.

DETACHED YOUTH WORKER (Two posts) based at (a) Gloucester and (b) Stroud. Scale 1-£2,712 to £3,537.

DISTRICT YOUTH WORKER (Three posts) based at (a) Gloucester, (b) Stroud, (c) Cirencester. Scale 1-£2,712 to £3,537.

COMMUNITY CENTRE YOUTH WORKER (One post) based at (a) Gloucester. Scale 1-£2,712 to £3,537.

WANDER LEADER for Youth Centre situated at: (a) Gloucester. Scale 1-£2,712 to £3,537.

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NAIROBI

TEACHING POSITIONS

Applications are invited from qualified teachers for the following posts: (a) Teaching, (b) Teaching, (c) Teaching, (d) Teaching, (e) Teaching, (f) Teaching, (g) Teaching, (h) Teaching, (i) Teaching, (j) Teaching, (k) Teaching, (l) Teaching, (m) Teaching, (n) Teaching, (o) Teaching, (p) Teaching, (q) Teaching, (r) Teaching, (s) Teaching, (t) Teaching, (u) Teaching, (v) Teaching, (w) Teaching, (x) Teaching, (y) Teaching, (z) Teaching.

Salaries in accordance with N.C.E. Staff for Youth Workers.

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ASSOCIATION OF COUNTY COUNCILS EDUCATION OFFICER

(£14,178-£29,431) - £15,060

The Association invite applications by 12th April, for the appointment of a successor to the present Education Officer, Mr. L. W. K. Brown, CBE, BA, FCP, who retires this year.

This senior appointment carries considerable responsibility within the Association and offers an exceptional opportunity to participate in policymaking at national level and in representing the interests of county councils with particular reference to their responsibilities as local education authorities. Preference will be given to candidates with substantial experience in the administration of the education service.

The Association have in membership the 47 non-metropolitan county councils in England and Wales and have established (jointly with the Association of Metropolitan Authorities) the Council of Local Education Authorities (CLEA).

Further particulars and forms of application on request.
Eaton House, 66A Eaton Sq., A. C. HETHERINGTON,
Westminster SW1W 9BH. Secretary.

OVERSEAS Appointments

FINLAND

TEACHERS in Finland need to have 2 years teaching experience in the UK. Applications should be sent to the Anglo-Finnish Institute, Keskustie 16, 00100 Helsinki, Finland. With curriculum vitae and references.

SAUDI ARABIA

TEACHERS in the T.E.S.L. field are required for Riyadh, Saudi Arabia. Salary range £2,000 to £3,000 per annum. Applications should be sent to the Saudi Arabian Cultural Bureau, 35 Park Square East, London N.W.1.

GREECE

TEACHERS of English required. Salary range £2,000 to £3,000 per annum. Applications should be sent to the Greek Cultural Bureau, 35 Park Square East, London N.W.1.

INTERNATIONAL

Foreign language teachers are required for the T.E.S.L. field. Salary range £2,000 to £3,000 per annum. Applications should be sent to the International Cultural Bureau, 35 Park Square East, London N.W.1.

Administration

Local Education Authority

BARKING
(London Borough of)
TEACHER,
See Education, Local Education Authority.

BEDFORDSHIRE
EDUCATION SERVICE
CAREERS OFFICER (STUDENTS)
Salary scale A.P. 6-8.0.1. £3,625

Applications are invited for the post of Careers Officer (Students) in the Bedfordshire Education Service. The successful candidate will be responsible for the careers guidance of students in the county. The post is a full-time position with a salary of £3,625 per annum.

BIRMINGHAM
(London Borough of)
TEACHER,
See Education, Local Education Authority.

BIRMINGHAM
(London Borough of)
TEACHER,
See Education, Local Education Authority.

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(Closing date for return of completed application forms, 6th April).

Apply for application forms and further particulars to: Mrs. P. Harris, Personnel Officer, National Foundation for Educational Research in England and Wales, The Mere, Upton Park, Slough SL1 2DQ.

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Examiners
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Relics of imperial India

Araminta Wordsworth reviews "Autobiography of a Princess"

Somewhere in Calcutta, a city with the worst slums in the world, there stands a palace with a classical facade, set in green, spacious gardens and well-furnished with European-style furniture. Inside are marble floors, marvellously tiled, and falling old retainers in white dhotis, who usher the visitor ceremoniously into room after room with coffered and painted ceilings, and crammed with statues in the Greco-Roman style, busts of Queen Victoria, Chinese vases and sculptures embalm under glass domes. Every thing is cracked and decaying in the frightful climate of Bengal, the furniture is covered in dust sheets and the oil paintings of improbable religious scenes are flaking away. It is the fascinating folly of a nineteenth-century Indian romantic falling quietly to pieces.

This palace sprang immediately to mind when I read of the rooms the princess built around themselves in James Ivory's *Autobiography of a Princess*, a coffee-table sized paperback (published by John Murray, £3.50). In it he writes of "All that heavy furniture, all those yards and yards of brocade, those chandeliers, the carpets and dinner services and bathtubs carved like sarcophagi—all dragged out to the deserts and into the jungles where they lie now, closed up and forgotten, like the contents of some huge tomb, the tomb of decades of rich men's taste..."

The book is a collection of photographs, odds and ends and anecdotes collected by Ivory between 1959 and 1973, material which he has not been able to use in any of his films, from *Shakespeare Wallah* onwards. And I am grateful for the wealth of

material there contained which supplements, but is not essential to an understanding of *Autobiography of a Princess*, the film (now showing at Academy 2, A1).

The starting point of this film was the discovery that the maharajahs, fascinated with so many other toys of western civilization, had taken to the home movie to record their everyday princely doings—pig-sticking, inaugurating an aeroplane hangar or having one's weight measured out in gold. Round these fragments of celluloid, Ivory and his scriptwriter, the novelist Ruth Praver Jhabvala, have constructed their film.

It is on the surface a slight gentle piece, short, nostalgic and reminiscent in tone. The plot is simple: a middle-aged Indian princess, Madam Jaffrey, living in exile in London, meets her old tutor (James Mason) every year on her father's birthday to look at old films and to talk of the past. Included in this year's show is a series of interviews with present-day princely dispossessed by Mrs Gandhi, but managing to survive as politicians or by opening their palaces as hotels.

As the pair watch the faded and flickering relics of imperial India, of the past they shared, they reminisce. Often it is only exclamations such as "Is this Fatehpur, Princes and Bungalows? Or is it India and Mother? No, there's uncle Ranu"—but in between the films they describe the India they both loved and the prince her father. Gradually the differences between their viewpoints are revealed, and a gulf appears that is as much the product of class, race and age, as it is of experience.

The princess remembers her father as "simply the top" or "spiffing", a man who loved fire works and quail from Ispahan. The details of setting and action are impeccable—the white Indian silk, the cake for tea, the princess's dress in diamonds yet complaining about the difficulty of keeping albums everywhere. The beautiful Madhur Jaffrey and the understated performance of James Mason make this a film to cherish.

For the princess, of course, these are the facts of life, and Ivory allows her the last word. The film closes with shots of an 80 year old court musician apparently living in extreme poverty. "But gay! Like a bird. She seems happy about everything..." and she continues to sing as Mason in muffled and overcoat and carrying a nuptial cake sets off for Turin-on-snow.

The film comes from the struggle between Cyril Sahib and herself on this point. She wants him to write a vindication of her father, deprived of his princely status after an incident in a London hotel. Cyril Sahib, stirring himself after years of inaction, leaps into luxury, is redressing the balance by writing about an obscure civil servant who laboured all his life in Orissa as a first-class administrator, collecting local history, songs and poetry.

Behind these views and memories which interlace and complement each other is India. Cyril Sahib remembers it with a mixture of fascination and repugnance as a land where weddings and funerals seemed indistinguishable, where ornate mausoleums looked like the purdah palaces in which queens spent

their lives, only venturing forth in certain cages, before their final journey to the grave or to their husband's funeral pyre. Like "those poor dead queens" who haunt him, he feels he has led a useless life far removed from reality.

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There are new developments in Plymouth, too, where a four-strong TIE team has been set up for the first time. The first programme, *The People Box*, a day-long project for infants, seems to have been well received and they are now preparing an upper secondary one based on the famous trial of Salem. Various future plans include a programme about Brunel for upper juniors.

In London a CEE drama or theatre arts syllabus to provide the basis of a sixth form general course is under consideration. This could be an extension of a CSE mode 3 course and would require practical as well as academic work. An experimental puppetry course (April 9 to 15) is being organized to meet the growing interest in this branch of drama. All aspects of the puppeteer's art will be featured. Further information is available from Mrs. Road, Gresham, Hindhead, Surrey (042 873 4027).

Puppets are an essential ingredient in *Abraham's* (Roundhouse, April 8 to 10, 15 to 17 at 2.30 pm)

in which clowns use them to tell folk stories from Israel, England and elsewhere. Also at the Roundhouse (March 30 to April 3, 7.30 pm) is *The People Box*, a day-long project for infants, seems to have been well received and they are now preparing an upper secondary one based on the famous trial of Salem. Various future plans include a programme about Brunel for upper juniors.

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Theatre in education

Anything can happen

Heather Neill

They have had architects in the basement at the ILEA Curtain Theatre recently. And residents in the auditorium. And borough councillors and treasurers elsewhere. These are all groups participating in a TIE programme called Steppington Dock Enquiry which is about the redevelopment of an imaginary—but typical—East London dockland area and aims to teach secondary school pupils something of the complexities of local government. During the morning, the "residents" and "council" discuss separately the proposals for redevelopment, drawn up by the planning committee. In the afternoon, it is announced that the Port of London Authority may be about to sell the land. In question to an American container firm without considering the residents at all. In the afternoon, a public enquiry is held to allow all the interested parties to state their points of view.

That is an outline of the day's activities, but, of course, anything can happen because all the decisions and objections of the partici-

pants have to be taken into account. Thanks to careful preparation by the programme's deviser, Rosemary Linnell, who has acquired an impressive knowledge of the subject during her 18 months' research, and through briefing of teachers (who are provided beforehand with an edition of the Steppington Borough News and a detailed map of the area) the day can be exciting as well as instructive.

Local government has also provided material for TIE in South Wales recently. *Newtopia* culminates in a public enquiry too, and there is again ample preparation of teachers, but this programme, about building a new town in the country, side, is taken into schools' CASCO (the community and schools' company attached to the Welsh Drama Company) and presents a companion piece, *Round the Bend*, a community play which confronts the problems of planning with "songs, jokes and madness".

Community Arts Centres seem to be flourishing in the Southern Arts region despite the notorious coldness of the economic climate.

The dramatist as observer

John Peter

The Royal Court have followed up their excellent *Treaty* with another sharp, tragicomic study of greed, compassion and indecision. *Yemi Ajibade* is a Nigerian, and his *Yemi* is about Nigeria living in London. But anyone expecting a portrayal of racial brutalities or some romantic homage to homeless but colourful immigrants will, I am afraid, be speedily disappointed.

Mr. Ajibade has no dewy-eyed illusions about African or any other race; nor is he an apologist for any prejudice or a preacher for any militant brotherhood. He is simply a shrewd, sensitive and unflinching observer of human creatures, which is the first requisite of a good dramatist. The second is a gift for dialogue which he also possesses.

Abundance. He is to be welcomed with pleasure and gratitude. The parcel post of the title is bringing Sam, Polunaga his virgin bride from Lagos but she turns out to be not quite what he had expected. Sam is living with his brother Dole in Islington, and Mr. Ajibade begins with a brisk presentation of the home: Dole, the grave law student (Rudolph Walker), full of wise saws and modern business from the actual books; a flighty wife (Talvo Aja), with a sharp eye on their lecherous landlord as well as the labour exchange; and Sam himself, a solemn devotee of Jehovah and the Holy Set of Clapham, played by the dramatist himself. The acting combines huge sincerity with a slight stiltedness which is a characteristic of black actors working in a European theatrical con-

vention: they impersonate their parts and at the same time communicate a gleeful enjoyment of them, which follows of another discipline would solemnly (and almost desperately) describe as Brechtian detachment.

This flat (a nicely observed set by David Short) is littered with cheap but smart articles—jars of vitamin pills, bits of airport art. This is perfectly in tune with Mr. Ajibade's writing: for he has an unloose life and a very eye for the quirks of people who belong to one world but not quite to another. The wedding party is a splendid blend of African attitudes and European manners: hosts and guests wearing superb native costumes, comport themselves with solemn English propriety which

only gradually dissolves and which is hurriedly restored at the slightest hint of disharmony. English behaviour is a defence; it also conveys dignity, status and distance.

Meanwhile Mr. Ajibade is no sentimentalist. He spurs his fellow countrymen as the same fallible predators we all are: he knows their instincts as well as their vicarious. For them London is like all God's creatures. And finally he is an unabashed comedian and his play is studded with moments of irresistible hilarity.

The cast are not all Africans (some are West Indians and, in Johnny Briggs and Stuart Rayner, we have two nicely observed English policemen); but David

Howarth's production achieves a remarkable homogeneity. Some of the is disturbed by odd accents. Glenna Foster Jones, who plays Yemi in little provocations, is a nice line in little provocations. A simple greed, sounds Odium as Awilized and Muriel Odium as the newly arrived bride speaks to their focus on Theatre in Education this evening or tomorrow at 7.30 pm.

But perhaps the best moment of the play belongs to her, and Mr. Ajibade, as they play out the scene of disappointment, and submission and hope by which they go to their marriage and to their focus on Theatre in Education this evening or tomorrow at 7.30 pm.



ETV

Jobs for the boys—and girls?

Jill Hoffbrand on some careers education series

The BBC produce two series designed to fit into careers education courses in schools and colleges. Of these, *Going to Work* is by far the most widely used. It is transmitted throughout the year, but although we have seen many of the programmes before, the year the format of the series has been changed.

In response to the growing practice of providing careers studies in the timetable for fourth as well as fifth years, the series now alternates job information programmes with general topics, so that it can be used over either one or two years. It is aimed at pupils who will leave school with no, or no examination passes, and set out to explore areas of employment which will appeal to both boys and girls.

Inevitably, some programmes are more successful in their choice, and clearly, single-sex schools, there is no reason, however, for continuing to separate boys and girls for careers lessons, often merely for timetabling convenience; the benefit of the programmes lies, as well as valuable balance, in discussion.

The job programmes always feature real young people at work and this brings disadvantages: indistinct speech, distracting mannerisms, and often authentic noise from the shopfloor. Against the risk of such material has to be balanced the danger that recording in a school may not be of the highest standard, and that the resulting film will not hold the audience's attention.

Another criticism is that too often the narrative seems to detract from the visual illustration of the matter. In the programme "People Matter", the girl who decided to

butter herself by becoming a personal secretary misses the companionship of the typing pool; the narrator is telling us this as the girl tosses her head, which made half the girls in my class say: "Haven't she got straggly hair?"

We missed the main point. There are many examples of these distractions in the "job" programmes, but far fewer in the general ones, which tend to be much more successful. This is probably because using actors in the studio makes for better programme reproduction. The open-ended programmes are particularly provocative, as in the interview (which boy finally gets the job?), and the play about money (should the young couple accept a loan?), and the constant introduction of new programmes keeps the series up to date. It is a pity the BBC decided to cut costs by not producing a pupils' workbook this year. It is sorely missed.

The other series, *A Job Worth Doing*?, unlike *Going to Work*, is beginning to look decidedly dated. It was created originally for school leavers with O levels but no A levels, for whom there was no provision. It covers a serious and worthy matter—a wide range of areas in which these pupils could find interesting work. Some of the programmes, like "Working with Animals" and "Bridging the Gap", are important and thought-provoking. The former dispels some of the myths which surround animals—there is nothing furry or cuddly about laboratory creatures—and the latter suggests ways of filling in time between leaving school at 16 and starting careers which demand greater maturity, such as nursing.

It is a pity, however, that the budget does not allow for greater use of dramatized studio production. This would help to enliven some of the less exciting jobs the series illustrates, and also vary the somewhat dead documentary approach.

Chinese for the motivated

Brian Hill

An exotic addition to the BBC's language coverage is *Starting Chinese* which begins next week (Radio 4, Wednesday 18.30, Radio 4, Sunday 14.30). In fact it is not a completely new series, but an amalgam of two previous broadcast courses: *Introduction to Chinese* (first broadcast in 1965) and *Speaking Chinese* (1967), leavened with some newly recorded explanations and elaborations.

The 25-programme course is based on "putong-hua" or Mandarin Chinese, although often the script used in the programme and adds a few very truncated notes. There is also a disc (97p) but consonants, tones and aural syllables are monotonously spoken.

Only somebody who is highly motivated will be able to stay with *Starting Chinese* once the novelty has worn off. Courses in minority languages should form part of the BBC's output, but it is an indulgence to take up 25 hours of air time with a 10-year-old Mandarin course. The time might have been allotted to short, preferably intensive courses with an appeal for the summer weeks—Greek and Serbo-Croat, for instance.

Each programme lasts 30 minutes and follows a similar pattern. A tape conversation, read in the studio, is followed by some explanatory notes of grammatical points and exercises with a large number of

gaps for repetition and manipulation. The BBC have obviously decided that their main audience will not be located among the habitual listeners of language programmes who tune in, for example, to *Tai Como Es* or *Ensemble*. The newly recorded *Introduction to Chinese* (first broadcast in 1965) and *Speaking Chinese* (1967), leavened with some newly recorded explanations and elaborations.

To get anything out of the course, a tape is essential (60p). This lists and translates all the main words used in the programme and adds a few very truncated notes. There is also a disc (97p) but consonants, tones and aural syllables are monotonously spoken.

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Film

Oh Well. Colour, 213 minutes. Shell Film Library, 25 The Burroughs, Hendon, London NW4 4AT.

A detailed account of offshore drilling for oil, which uses live action and animation to show the geological conditions in which oil

is found and the variety of equipment and techniques used to obtain it from under the sea. Useful for schools because of its clear explanation and detail not found elsewhere in the many films on oil production. It also shows the varied jobs required, from sophisticated scientific laboratory work to manual labour. Careers officers might therefore be interested.

Local radio

Local cooperation

Shirley Toulson on a Radio Oxford education project

Cuts in education spending are at least ensuring that L.E.A.s make the best use of the resources they do have. Local radio is one that has sometimes been under-exploited, although authorities like Oxfordshire have always been determined that in return for seconding a teacher to the local radio station, the schools should receive fully effective programmes. This can only happen if the seconded teacher is backed by both educationists and broadcasters.

In Oxfordshire Brian Larkin, warden of the Oxford Teachers' Centre, works closely with Hugh Phillips, the education producer for Radio Oxford. This cooperation was extended last summer when Mary Hodges, a lecturer in history at Lady Spencer Churchill College, and David Eddershaw, education officer at the Oxford County Museum in Woodstock, together with Mr Larkin and Mr Phillips, worked with Sally Hanger, the seconded teacher, to produce *Step Back*, a weekly series of local history programmes, first broadcast last autumn term and due to be revised and re-broadcast in the summer.

The making of the 10 programmes in the series eventually involved schools throughout the county (with the exception of the southern corner which cannot pick up the local radio station). Programme notes and support material were sent to over 60 schools, and naturally there was quite a bit of eavesdropping from general listeners, a further 30 packs went out to them. Schools which did not manage to listen to the broadcasts or to tape them, are able to borrow them from the Oxford teachers' centre.

The taping of the programmes was essential, for each one is so packed with material that it can form the basis for a term's work. It would be disastrous if any school were to try to follow the series week by week, as they might with other schools broadcasts. Briefing meetings with teachers throughout the county were held before the programmes were broadcast in order to make the best use of the series. Initially not much was concerned with the teaching of local history, who picked up the programme over the air, soon realized that they couldn't follow up all the ideas of a programme in one week, and adjusted their work.

Mr Larkin and Miss Hanger were adamant that the enterprise would have been far less successful without the help of Radio Oxford. Miss Hanger found that an introduction from the local radio station made it easier to approach people and to give interviews for the tapes. In addition the quality of the taped interviews, particularly those with men and women in their 80s, who had lived in Oxfordshire all their lives, probably gained considerably from the fact that both sides knew it was for public broadcast and not simply for private use.

Mr Larkin had more fundamental reasons for welcoming the local radio link. In his view it was invaluable in furthering cooperation between the schools and the families. Many parents followed the broadcast series and taped them for their own use. He also felt that the children from the schools whose work formed a basis for the programmes, benefited considerably from having such an end-product for their project.

Mr Eddershaw, who was head of the history department at Chipping Norton for seven years before he came to the county museum service, hopes that this summer's revised tapes will contain even more school participation. In making the original tapes he was particularly involved with those dealing with the growth of a market town (Chipping Norton

was the example chosen); vernacular architecture; graveyard inscriptions; and the history of the school buildings and the people who taught and learnt in them. All these projects were supplemented by advice from the museum staff, and by exhibits from the loan collection. In return the children were able to help the museum by completing some part of the local graveyard surveys.

This is not so lugubrious as it may at first appear. Miss Hodges at Lady Spencer Churchill College and her colleagues, Mr Geoffrey Stevenson, are both enthusiastic about the teaching of history through the lives of ordinary men and women. Although they do not advocate that children should handle original documents, such as parish registers, they have shown that transcribed photographs of the nineteenth-century census material are an invaluable stimulus for arousing an interest in how people lived.

Miss Hodges has worked in this way with several local schools. Her practice is first to get the children interested in tracing the history and ramifications of their own families, and then to extend that interest backwards in time to include the work and daily lives of the people who lived in their neighbourhoods. This information is gleaned through a census return and through graveyard inscriptions.

Appropriately enough, the school that did the most work on the graveyard programme for *Step Back* was Chalgrave Primary, whose head, Colin Bell, told me that a ghost was mentioned in the manor's log book for 1855. Tony Dunkley, the class teacher responsible for the *Step Back* work, explained how the children had made systematic plans of the village graveyard and applied the information that they took in trying to decipher the inscriptions on the older tombs.

Oxfordshire children seem to be lucky in their ghosts. There is a particularly well-documented one at the manor house at Horwath, which is now a dormitory village for Cowley. The children at the primary school there exploited this "ghost" to the full, when they did a systematic study of all the buildings in the village.

Their head, Rod Sharman, told me that the project, which was eventually formed into one of the *Step Back* programmes, was started quite independently of it. It began as a project when, stimulated by some publicity about Architectural Heritage Year, the children asked if they could do a bit of work on buildings.

Clearly the classes of teachers such as these, with a national interest in the historical aspects of the environment, are never going to be too dependent on broadcast material. Mr Larkin explains the real purpose of the *Step Back* tapes, which are all destined to be seen by the pupils. "We are really communicating ideas to other teachers through talking to the children". The most experienced teacher will be able to find some fresh line of approach in each tape; and the teacher who has never before worked on local history will find some practical starting points.

Mr Phillips, who used to teach science at Hillingdon, sees his responsibility towards the schools in terms of always trying "to meet expressed demands". He welcomed the *Step Back* programmes for the opportunity they gave for many teachers to learn the techniques of interviewing and recording; and for the links they forged between so many different agencies in the county.

The written notes to "Step Back" are available from the Oxford Teachers' Centre, Singletree, Rose Hill, Oxford OX4 4JR, 42p post and packing.

Flame of Knowledge Award

A documentary "James is our Brother" has won the Flame of Knowledge Award for the BBC for the fifth successive year. Recognition makes the award to schools programmes.

The winning production, about a teenage mongrel boy, his family and friends, was made as part of *Scene, and Feet* in 1972 and *Working Princess* Anne presented the award

to the producer, Richard Tonge at the British Academy of Film and Television Arts Award Ceremony at the Royal Albert Hall last week. Mr Tonge won the award last year for another documentary for schools, *Scene, and Feet*. Previous winning programmes have been *Hell Come* in 1973, *Hands* in 1972 and *Working Princess* Anne presented the award

Briefings

Radio and TV

EE and OU

The Baby Street Kids. (Saturday, 10.10. Thursday, 17.25. BBC2.)

Study of a Yorkshire primary school where activities such as art and movement are said to stimulate better work from the children in other subjects, including maths. *Just Space*. (Tuesday, 07.30. Wednesday, 17.00. BBC2.)

In the series "School and Society" this film compares how space is used in two primary schools in the Barbican. Both are open but one is purpose-built, the other converted.

Parents and Children. (Sunday, 13.25. BBC1.)

Looks at how far sex roles differ because of intrinsic differences and how far they result from conditioning. Film of children choosing toys and a discussion on the sex stereotypes portrayed in children's literature. *You are What You Eat*. (Monday, 18.30. Radio 3.)

Eight programmes providing practical information and advice on the basic principles of nutrition and the requirements of a sensible and balanced diet.

Teaching Politics. (Tuesday, 19.00. Radio 3.)

Also aimed at teachers, this series would also interest wider public. The last two programmes discuss approaches to political education. *Speculations*. (Thursday, 18.30. Radio 3.)

The second group of programmes investigating areas of experience and ideas on the fringes of scientific knowledge.

Athlete. (Friday, 9.30. BBC1.)

Of use to teachers and students alike—some ideas on indoor training for athletics. Shows how activities must relate to events and not vice versa. *Start the Day*. (Sunday, 19.00. ITV.)

Who will win the £250 prize for the best new religious song for school assembly? The four finalists' compositions are performed by the St. Anne's Convent School and the Church of Music Centre choir. The judging panel includes teachers and choristers.

Sound Advice. (Monday, 11.35. ITV.)

An examination of the hearing problems of school children and adults. A child classes as "slow" could have an unrecognized hearing defect. Everyday sounds can damage hearing, but people are still loath to ask for help.

General interest

Country Search. (Wednesday, 16.45. BBC 1.)

The second of two programmes on "Survival" shown before the Easter holidays when accidents on hills and mountains are frequent. Emphasizes the importance of crisis training.

Lifelines in Medicine. (Wednesday, 20.30. Radio 4.)

A three-part series investigating some of the advances and current experiments in medicine. For each form and further education colleges.

Catalogue

Films for Industry Catalogue. 50p. Main Catalogue, 60p. Central Film Library, Government Building, Bromway Avenue, London W5 7JL.

The catalogues of CFI are models of their kind and these two are no exception. The *Main Catalogue* ranges over a very wide field, covering industry, agriculture, the Commonwealth, the social and economic field, and many other areas (the facts of particular interest to schools). Like education and youth training, world citizenship, science and technology, or health, hygiene and medicine. There are more than 1,000 titles in all.

Films for Industry includes nearly 1,000 titles, of which about 35 are of filmstrips on technical and practical training, mostly related to films in the catalogue. It is probably the largest industrial catalogue of its kind and has a remarkable range of material.

John Peter